Proposed Project Criteria

August 2005

Carl Moyer Program
Agricultural Assistance Program

Workshops

Sacramento
August 17,18, and 19, 2005
California Air Resources Board
Sierra Hearing Room, 2nd Floor
1001 I Street

Fresno
August 25, 2005
San Joaquin Valley Unified Air
Pollution Control District
1990 East Gettysburg Avenue

Overview

Since 1998, the Carl Moyer Memorial Air Quality Standards Attainment Program ("Carl Moyer Program") has provided grants to encourage the owners of heavy-duty diesel engines to go beyond regulatory requirements by retrofitting, repowering, or replacing their engines with newer and cleaner ones. On January 1, 2005, new legislation (AB 923, Firebaugh) took effect which expands the Carl Moyer Program to include new pollutants, as well as new sources of air pollution. The legislation requires the Air Resources Board (ARB or "Board") to establish or update grant criteria and guidelines for covered projects, as revised by the bill, by January 1, 2006. In addition, SB 1394 (Levine), approved in the same legislative session, directs ARB to develop heavy-duty fleet modernization guidelines at the first opportunity.

This document describes the ARB staff's proposed project criteria for the 2005 revisions to the Carl Moyer Program Guidelines. The project criteria form the backbone for the Guidelines, outlining funding criteria for each source category. In addition to modifications to address the legislative changes described above, ARB staff are also proposing to codify administrative requirements, and to update the Guidelines to reflect the current regulatory environment.

AB 923 also created a new incentive program funded through an optional $2 increase in the Motor Vehicle Fee which must be approved by local air district boards. This new program, which is called the "Agricultural Assistance Program," is required to use the Carl Moyer Program Guidelines to award grants, however the types of projects that may be funded differs slightly from the Carl Moyer Program. This document also describes the staff proposal for implementation of the Agricultural Assistance Program.

The proposed project criteria will be discussed at a series of workshops in August 2005. Based on the comments received, ARB staff will prepare the proposed Carl Moyer Program Guidelines. The Guidelines will include background information, descriptions of applicable regulatory requirements, and sample calculations, as well as the project criteria. The proposed Guidelines will be released for public comment in early October. The Board is scheduled to consider the proposed Guidelines at its November 17, 2005 meeting.

Timeline

Workshops (Sacramento)	August 17, 18, and 19
Workshop focusing on agricultural sources (Fresno)	August 25
Release Proposed Carl Moyer Program Guidelines	Early October
Board consideration of Carl Moyer Program Guidelines	November 17, 2005

Proposed Requirements for Administration of the Carl Moyer Program

Since its inception, the Carl Moyer Program has been successfully implemented through the cooperative efforts of ARB and the local air districts. Health and Safety Code section 44286 authorizes ARB to make grant awards to local air districts that apply to implement local programs, with ARB having ultimate oversight responsibility of the statewide Carl Moyer Program. The local air districts cooperatively implement their local programs following the guideline criteria approved by the ARB and are provided with the flexibility necessary to implement stricter criteria based on their local air pollution challenges and air quality goals.

Annually, ARB has implemented the requirements of Health and Safety Code sections 44287 through 44297 in determining and reporting the success of local districts' programs. Currently, for each funding cycle, the districts are required to report to ARB three times in a two-year period. This allows ARB to track local progress in spending the Carl Moyer Program funds. With continued funding increasing up to $140 million per year from several funding sources secured through 2015, it is critical to track funds from the point the district applies for funds from ARB through the local district's payment for a project with state funds.

The following sections list proposed minimum requirements that ARB and local air districts must follow to continue implementing a successful statewide Carl Moyer Program and to ensure the requirements of the Health and Safety Code are met. The proposed requirements identify ARB's responsibilities pertaining to program oversight, audits, and recapture of districts' funds. They also identify the minimum requirements that districts must include in their local programs so ARB will have a tool to document the districts' success and determine if funds need to be recaptured.

Carl Moyer Program Application, Award, and Disbursement Process

- ARB sets tentative funding allocation following the Health and Safety Code section 44299.2. All districts are eligible to receive a minimum of $200,000, with an additional 2 percent of the funds available for outreach.

- ARB solicits district interest by sending application packets to the districts in mid-September.

- Districts participating in the program must provide a match from local funds in order to receive funds from the Carl Moyer Program. Districts receiving an award for the minimum allocation can apply for a waiver to the match fund requirement. Eligible projects that meet the match requirement are as follows:

  - Projects that meet the criteria specified in the Carl Moyer Program Guidelines;
  - Infrastructure funding for projects that meet the Carl Moyer Program Guidelines; and
  - In-Kind Contributions – up to 15 percent of a district's match funds can be documented as coming from in-kind costs associated with administration of the local Carl Moyer Program

- ARB provides districts 60 days to reserve funds.

- Districts reserve funds by submitting the following information to ARB by mid-November each year:

  - an application;
  - documentation for match funding, or a match fund waiver;
  - a resolution or other approval from the local district's Governing Board authorizing participation in the Carl Moyer Program;
  - for first time applying districts or at-risk districts, a plan for implementation; and
  - documentation of the status of all previous years' Carl Moyer Program funds for which no final report has been submitted.

- ARB checks completeness of applications and notifies districts if application is incomplete within 10 working days.

- ARB checks the status of local district programs for all previous years of funding and determines whether the application meets all Carl Moyer Program citeria. Complete applications, which fulfill all criteria, are approved within 60 days.

- ARB sets final funding allocations based on the reservations of funds made by districts through applications received. ARB notifies districts of final funding allocations in January of each year.

- ARB must receive formal acceptance of the funds by each district no later than April 30 of each year.

- ARB will allow districts to request 10 percent or $100,000 of their grant award (whichever is greater), upon obligation and expenditure of prescribed percentages of previous years' funds. At the time of initial disbursement, if a district submits a request that satisfactorily documents the need for more than 10 percent or $100,000, a larger disbursement may be made. Additional disbursements are made upon district request and submittal to ARB.

- ARB requires districts to report any interest accrued on State funds under the Carl Moyer Program. If interest is accrued, the district must use those additional funds for projects that meet the Carl Moyer Program guidelines.

- ARB requires districts to obligate funds by June 30 of the year following that in which the final district allocation was made.

- ARB requires that the district spend all funds by June 30, two calendar years from the year in which the final district allocation was made.

- ARB provides training and technical assistance through quarterly Incentive Program Implementation (IPI) team meetings and every time the guidelines are updated. When the guidelines are updated, it is mandatory that all districts attend training provided by ARB.

ARB Monitoring and Auditing of District Programs

- ARB will conduct annual desk reviews of all district projects based on the information provided by the districts in the initial, annual, and final reports.

- ARB will conduct a review of all districts' policies and procedures manuals at the time of their adoption and amendment to ensure that they are consistent with the Carl Moyer Program Guidelines.

- ARB will conduct on-site monitoring of at least 5 percent of district projects, funded in the last completed funding cycle, for four districts per year.

- ARB will conduct random audits of district programs that may include all components of both a desk and on-site review. ARB may designate a third party auditor to perform the audit.

- ARB's audit reports will identify any deficiencies in a local district program that need corrective action. Any district that fails to take a corrective action will be identified as an "at-risk" district.

ARB Administrative Action

- ARB will take appropriate administrative action on those districts that have been identified as an "at-risk" district for program implementation, and do not complete the corrective action or meet the corrective action plan for expending funds by the specified deadline.

- Administrative action will include holding a public meeting to consider recapture of outstanding funds that are not obligated.

- ARB will allocate recaptured funds in any fiscal year by considering districts that have applied for and have sufficient match to accept additional funding from the same year and type of allocation.

District Program Implementation

ARB is responsible for auditing local district programs to determine if the local air districts are operating programs that meet Health and Safety Code requirements as implemented through the Carl Moyer Program Guidelines. In order for ARB to determine that a local district program is operating within the minimum requirements of the statewide program, ARB proposes to require each district participating in the Carl Moyer Program to maintain and follow written policies and procedures. The district's written policies and procedures shall include, at minimum, the following:

- A specified method for outreach;
- An environmental justice element - districts with more than 1 million in population will have a method in place that provides for 50 percent of Carl Moyer Program funds for projects that operate or are based in environmental justice areas;

- A method for solicitation (i.e. over the counter, first-come-first serve, request for proposals, call for projects, notice of funds available, etc.,);
- A standard application form with the minimum information required under the specific source categories;
- A method for tracking applications;
- A method for reviewing and notifying applicants of the completeness of applications within 5 days of receipt;
- A method for determining and documenting project eligibility and if competitively selected, rating and ranking;
- A method for tracking all projects selected and paid for;
- A method for obligating and expending funds for selected projects;
- A method for completing pre- and post-inspections;
- A method for reporting projects paid for into ARB's database; and
- A method for monitoring and auditing completed projects.

Minimum Contract Requirements

The Carl Moyer Program funds projects that achieve cost-effective emission reductions that are real, quantifiable, surplus and enforceable. Currently the local air districts are required to obtain executed contracts between the district and the applicant validating the project benefits being paid for are real, quantifiable, surplus and enforceable. In order to ensure that the core principles of the Carl Moyer Program are maintained throughout each local program, ARB proposes the following minimum requirements be included in executed contracts between the local air district and the applicant.

- Names of the parties to the contract, with a contract effective date;
- Contract Term – minimum contract term of 3 years. For projects where an award is determined based on emission reductions for a project life that exceeds 5 years, the minimum contract term is 5 years for all categories other than locomotive and marine vessels. Throughout the project life, including after the 5 year contract term, ARB has the authority to inspect and audit the project to determine that the emissions reductions are realized and that 75 percent of the operation is still in California;
- Payment conditions;
- Obligations for meeting the Carl Moyer Program requirements and maintenance of the engine, equipment, vehicle or retrofit paid for with state funds;
- Project specifications and performance expectations;
- Repercussions for non-performance or other breach of contract;
- On-site inspection and auditing requirements for the project;
- Record keeping and retention requirements;
- Reporting requirements;
- Insurance requirements;
- Notification requirements; and
- Signature blocks with dates for both parties

District Monitoring Requirements

- Pre-inspection for all repower and replacement projects, with documentation of pre-inspection. Districts may choose to exempt public agencies as long as the agency provides documentation of the engine and its use.

- Post-inspection for all projects, with documentation of the post inspection. For public fleets where more than 20 vehicles in the fleet are included in the project, the district may choose a statistically significant random sample of the fleet.

- For repower projects, the post-inspection must verify that the baseline engine was scrapped. Documentation confirming that the engine was scrapped in accordance with applicable requirements must be maintained in the district's project file.

- Districts must audit 10 percent or a statistically significant percent of projects that have more than a 3 year project life 2 years before contract expiration. The audit must be conducted to ensure that the project is still operating as intended in the contract. The district must take appropriate action when a project is not operating as required in the contract.

- Districts must randomly audit at least 5 percent of the engines at the end of the contract term.

- Districts must audit all projects whose owners failed to report annually and those that operated below the required level of use during the audit two years prior to the end of the contract.

Expenditure Requirements

- Districts shall make final payment for projects only after a satisfactorily completed post-inspection has been conducted and the district has received and approved all invoices.

- Districts may make progress payments as long as clear milestones for those progress payments are outlined in the project's contract and records of those progress payments are maintained in the project file.

- Districts may include those mechanical items that are necessary to complete the installation of the new engine or retrofit and the labor directly associated with the installation as eligible expenses

- Districts must reduce the incremental cost of each project by the value of any current financial incentive that reduces the project price, including tax credits or deductions, grants, or other public financial assistance. Project applicants shall be required to state in their application any other public financial assistance to the project.

District Reporting Requirements

Reporting is an important tool for the Carl Moyer Program. Reports allow ARB to determine if a district needs technical assistance, or if funds should be recaptured and reallocated to districts that implement successful programs.

- **Initial Report.** Districts shall submit an initial report to ARB by October 1 of the same year the funds are awarded. The report describes the district's initial status in meeting the milestones, outlined in the District's application, for spending Carl Moyer Program funds, match funds and $2 Motor Vehicle Fee funds.

- **Annual Report.** Districts shall submit an annual report on Carl Moyer Program funds, match funds, and $2 Motor Vehicle Fees by or before June 30 of the year following their allocation. The annual report provides ARB with an indication of the amount of funds awarded to a district in any single year that have been promised to projects. ARB uses this report as a milestone to determine the need to recapture funds to reallocate to districts that have successful programs.

- **Final Report.** Districts shall submit a final report no later than June 30 of the second year following notification of their annual award or after all Carl Moyer Program and match funds have been expended. The report provides ARB with an indication of the amount of funds awarded to a district in any single year that have been spent on projects. The report also includes progress on spending $2 Motor Vehicle Fee funds.

- **At-Risk District.** A district will be determined to be "at-risk" based on the following:
  - funds not obligated and/or expended within the required time frames;
  - funds are spent in a way that is not consistent with the requirements of the Carl Moyer Program Guidelines;
  - the local program is implemented in a way that does not guarantee that state funds are being used for projects that provide real, quantifiable, surplus, and enforceable emission reductions that are within the maximum allowed cost-effectiveness limit; or
  - the local program has an audit finding that is not corrected.

Timeline for One Year of Funds

- **Mid-September** — ARB Solicits applications from districts based on tentative awards

- **Mid -November** — ARB receives applications from districts

- **Early January** — ARB notifies districts of final awards

- **April 30** — district deadline to accept or decline funds

- **October 1** — Initial Report from district to ARB

- **June 30 following year** Annual Report from district to ARB – funds must be obligated

- **June 30 of second year** Final Report from district to ARB – Project must be invoiced and paid for, funds must be spent

Proposed Cost Effectiveness Formula

New legislation (AB 923, Firebaugh) requires the Air Resources Board (ARB) to establish cost-effectiveness limits for Carl Moyer Program projects that reduce emissions of oxides of nitrogen (NOx), particulate matter (PM10), and reactive organic gases (ROG). Cost-effectiveness for the Carl Moyer Program was previously based only on NOx emission reductions. Now ARB must establish appropriate factors to calculate a weighted cost-effectiveness. This change allows funding of NOx, PM10, and ROG emission reduction projects.

Cost-effectiveness is a measure of dollars provided to a project for each ton of covered emission reductions. To calculate cost-effectiveness, the project grant amount is annualized based on the project's life and a discount rate. This annual cost is then divided by the project's estimated annual emission reductions.

- The ARB staff is proposing to adjust the maximum cost-effectiveness for a Carl Moyer Program project to $14,300 per weighted ton of NOx, combustion PM10, and ROG emissions reduced to account for inflation. Local air districts may set lower thresholds to maximize program effectiveness.

- The formula for cost-effectiveness is annualized cost divided by total emission reductions:

$$\frac{\text{Annualized Cost (\$/year)}}{\text{NOx reductions + WF x (combustion PM10 reductions) + ROG reductions (tons/year)}}$$

where "WF" is a weighting factor.

ARB staff believes it is appropriate for emission reductions of combustion PM10 to carry additional weight in the calculation because these emissions are especially harmful to human health and are a priority for the ARB. In addition, emissions of combustion PM10 are much lower, on a weight basis, when compared to the ROG and NOx emissions from the same engine. Because the proposed Guidelines will not include specific project criteria for non-combustion PM10 projects, at this time, the staff is not proposing a weighting factor for non-combustion PM10 in the cost-effectiveness calculation.

The ARB staff is considering a range of combustion PM10 weighting factors from 10 to 30. In Carl Moyer Program Advisory: 05-001 (December 20, 2004), the staff proposed weighting combustion PM10 emission reductions by 10 based on the cost to control combustion PM10; that is a weighting factor of 10 would offset the increased cost of reducing an equal amount of combustion PM10 emissions compared to the emissions of ozone precursors such as NOx and ROG. Some commenters have suggested that it would be more appropriate to base the weighting factor on the greater health impacts of combustion PM10. They have suggested that based on the health impacts of combustion PM10 as compared to ozone, 30 is a more appropriate weighting factor for combustion PM10. The ARB staff is soliciting comments on the appropriate weighting factor within this range.

For NOx and ROG emissions, ARB staff is proposing a weighting factor of one (1), relative to combustion PM10 emissions. The same weighting factor is used for both NOx and ROG emissions to reflect the roles of these pollutants in ozone formation. Although NOx and ROG do form secondary PM10 emissions, their overall impact is small relative to direct combustion PM10 emissions. Because of this, and to keep the cost-effectiveness formula relatively straightforward, ARB staff is proposing not to adjust the weighting factors for NOx and ROG to account for potential health effects due to their PM10 contribution.

- Some commenters have suggested incorporating exposure, particularly to sensitive receptors such as schools, into the cost-effectiveness calculation. After considering the nature of mobile source projects that travel throughout local air districts (and sometimes the entire state) and the potential difficulties associated with assessing the location, timing, and duration of emissions of each individual Carl Moyer Program project, the ARB staff is proposing not to incorporate exposure into the cost-effectiveness calculation. It should be noted, however, that each local district has the discretion to use project selection criteria that account for exposure. In addition, local districts with a population of over one million must have a method in place to provide for the expenditure of 50 percent of Carl Moyer Program funds for projects that operate or are based on environmental justice areas.

Proposed Project Criteria for On-Road Projects

Participating districts retain the authority to impose additional requirements in order to address local concerns.

A. General

- Emission reductions obtained through Carl Moyer Program projects must not be required by any federal, state or local regulation, memorandum of agreement/understanding with a regulatory agency, settlement agreement, mitigation requirement, or other legal mandate.

- Projects must meet a cost-effectiveness of $14,300 per weighed ton of NOx + ROG + combustion PM10 reduced calculated in accordance with the cost-effectiveness methodology discussed in this chapter.

- No emission reductions generated by the Carl Moyer Program shall be used as marketable emission reduction credits, or to offset any emission reduction obligation of any person or entity.

- No project funded by the Carl Moyer Program shall be used for credit under any federal or state emission averaging banking and trading program.

- Carl Moyer Program grants can be no greater than a project's incremental cost. The incremental cost is the cost of the project minus the baseline cost. The incremental cost shall be reduced by the value of any current financial incentive that reduces the project price, including tax credits or deductions, grants, or other public financial assistance. See below for details on the baseline costs for new purchases, repowers, and retrofits.

- Projects must have a minimum project life of three years. ARB may approve shorter project life on a case-by-case basis. Projects with shorter lives may be subject to additional funding restrictions, such as a lower cost-effectiveness limit or a project cost cap.

- Projects with more than a 5 year project life must have a contract term of at least 5 years.

- Potential projects that fall outside of these criteria may be considered on a case-by-case basis if evidence provided to the air district suggests potential surplus, real, quantifiable, and enforceable emission reduction benefits.

- Vehicles operating under a compliance extension granted by the ARB, a local district, or the U.S. EPA are not eligible for funding.

- Default project life for on-road projects are as follows:

School buses ≥ 33,000 GVWR - New	20 years
Buses ≥ 33,000 GVWR - New	12 years
Other On-road - New	10 years
Other On-road - Repowers	7 years
Retrofits	5 years

Projects must provide documentation to justify a longer project life.

- On-road heavy-duty diesel vehicles with a gross vehicle weight rating between 8,501 and 14,000 pounds may be considered for Carl Moyer Program funding for new, repower and retrofit projects on a case-by-case basis.

- All engines in new purchases and repower projects must be certified by the ARB for sale in California and must comply with durability and warranty requirements.

- All aftermarket emission controls (retrofits or Diesel Emission Control Systems) must be verified by the ARB.

B. Compliance Checks

After the district qualifies on-road projects for funding but before the district APCO signs an agreement for funding a project, the district must submit the project to ARB to check for outstanding violations. The process for completing the compliance check is as follows:

- The district shall email their ARB district liaison the contact name, organization or business name and VIN for the project.

- The liaison shall then forward that information electronically to the responsible parties at ARB. The liaison will email the district the results of the compliance check within 5 working days.

- If the compliance check indicates there is an outstanding violation the district shall inform the engine owner in writing that no disbursement may be made until the owner provides proof that the violation has been corrected and the fines have been paid.

- If the outstanding violation is based on problems with the baseline engine (e.g., gross polluter) the new engine must be installed (instead of fixing the old engine), the vehicle must be operational, the engine owner must pay the violation and, submit documentation of the violation being corrected with or before submitting the invoice.

- Vehicles with outstanding violations may not be sold or transferred.

C. New Vehicle Purchases

The following criteria apply to all on-road new vehicle purchases

- Projects must provide at least a 30 percent NOx emission reduction compared to baseline NOx emission factors for the specific vehicle type.

- Fleets/agencies impacted by upcoming fleet regulations may use Carl Moyer funding to purchase a new vehicle if the project life expires prior to the final compliance date of the regulation. For example, if a project with a 3-year project life is funded in December 2006 it must be surplus to any regulations through December 2009.

- Fleets/agencies purchasing vehicles that will be impacted by upcoming emission standards may use Carl Moyer funding to purchase a new vehicle up to the compliance date of the new standard.

- Through 2006, new vehicles eligible for the Carl Moyer Program must have engines certified to an optional, low emission standard of 1.8 g/bhp-hr NOx + NMHC or less.

- From 2007 to 2009, new vehicle engines eligible for the Carl Moyer Program must be certified to a 0.2 g/bhp-hr NOx emission limit.

- Engines used in any averaging, banking, or trading program (ABT) are not eligible for funding.

D. Repowers

The following criteria apply to all on-road repower (engine replacement) projects.

- For repower projects, the replacement engine must be certified to reduce NOx emissions by at least 15 percent from the baseline engine.

- Fleets/agencies impacted by upcoming fleet regulations may use Carl Moyer funding for repower projects if the project life expires prior to the final compliance date of the regulation. For example, if a project with a 3-year project life is funded in December 2006 it must be surplus to any regulations through December 2009.

- The model year of the vehicle to be repowered must be 1990 or newer.

- Replacement engines subject to the software upgrades for diesel trucks (i.e., chip reflash) must complete the software upgrade process before being installed in a vehicle. The cost of the software upgrade is not an eligible Carl Moyer Program expense.

- Funding requests for other related repowering equipment such as the vehicle transmission will be considered on a case-by-case basis and is at the discretion of the district.

- If within the $14,300 cost-effectiveness limit, the highest available ARB verified diesel emission control strategy (DECS) should be installed as part of the repower

project. The full cost of the retrofit kit may be funded subject to the $14,300 cost-effectiveness limit.

- The baseline engine in a repower project must be destroyed. Core charges may be included in the reduced equipment cost and accounted for in the cost effectiveness analysis. Specific salvage requirements are as follows:
  - The old engine must be taken to a qualified vehicle salvage yard for destruction. Vehicle salvage yards are required to enter into an agreement with the district to qualify for participation. Qualified vehicle salvage yards are required to be licensed by the Department of Motor Vehicles as an auto-dismantler; have a current, valid Cal/EPA Hazardous Materials Generators Permit; and be in compliance with all local, state and federal laws and regulations.
  - The salvage yard operator must:
    1. Drill a hole in the engine block of the old vehicle to ensure that the block will not be used again.
    2. Take photographs of the hole in the engine block and the cut frame rails. Photographs of the destroyed engine block and cut frame rails must be provided to the district within 10 business days of salvaging the vehicle. The following picture views should be taken:
       a. Engine side view
       b. Engine serial number either stamped on the block or on the tag
       c. Hole in the engine block either in-frame or out of frame
  - Upon request of the district, ARB may approve an alternative disposition for the old engine.

- The replacement engine used in vehicle repower projects may be a new, rebuilt, or remanufactured engine. Eligible rebuilt or remanufactured engines are those offered by the OEM or by a non-OEM rebuilder that demonstrates to the ARB that the rebuilt engine and parts are functionally equivalent from an emissions and durability standpoint to the OEM engine and components being replaced.

- For repowers, replacement engines manufactured after September 30, 2002, that are not certified to at least the 2.4 g/bhp-hr NOx+NMHC, or 2.5 g/bhp-hr NOx+NMHC with a 0.5 g/bhp-hr NMHC cap, are ineligible to participate in the Carl Moyer Program.

- Engines that are certified to a Family Emission Limit (FEL) NOx or NOx+NMHC level that is lower than the required emission standard are eligible for use in vehicle repower projects. However, the emission level that can be used in cost effectiveness calculations for these engines would be the applicable emission standards and not the FEL levels.

- Mechanical-to-electronic engine repower projects will be considered on a case-by-case basis.

- Funding is not available for projects where spark-ignition engines (i.e., natural gas or gasoline, etc.) are replaced with new diesel engines.

E. Retrofits

The following criteria apply to all on-road retrofit projects

- Only ARB-verified retrofits are eligible for funding.
- Retrofit projects that reduce NOx emissions must be verified to a NOx reduction level of at least 15 percent from the baseline engine.
- DECS that reduce PM emissions must be verified as level 1 (25 percent reduction), level 2 (50 percent reduction), or level 3 (85 percent reduction).
- Fleets/agencies impacted by upcoming fleet regulations may use Carl Moyer funding for retrofit projects if the project life expires prior to the compliance date of the regulation. For example, if a project with a 3-year project life is funded in December 2006 it must be surplus to any regulations through December 2009.
- If the retrofit device reduces both NOx and PM emissions and is being installed to comply with a PM requirement, then only the cost of the NOx reductions are eligible for Carl Moyer Program funding.
- The cost of the DECS, and all filters needed during the project life, may be paid for with incentive funding provided it meets the cost-effectiveness limit.
- Future maintenance for the retrofit emission reduction device may be paid for with incentive funding, if it meets the cost-effectiveness limit.

F. Fuels

- Funds under a district's budgetary authority or fiduciary control may be used to pay for the incremental cost of liquid or gaseous fuel, other than standard gasoline or diesel, which is integral to a covered emission reducing technology that is part of a project receiving grant funding under the program. If all Carl Moyer Program criteria are met and the project is not a “fuel-only” project, the incremental cost of alternative fuel can be considered a qualified matching contribution from a district.

G. Glider Kits

- An engine repower for a glider kit (replacement cab and chassis) is eligible for funding. The replacement engine must be newer than the glider kit and meet the general program criteria above.
- Glider kits are not an eligible expense under the Carl Moyer Program.

H. Heavy-Duty Trucks

Currently, most in-use heavy-duty trucks, or heavy-duty vehicles designed to carry an entire load such as long-haul, short-haul, delivery, and construction trucks, are not subject to any fleet rules. The ARB is developing a fleet rule for private heavy-duty vehicles that is tentatively scheduled to be presented to the Board in 2006. When approved, it may impact the project criteria for these projects. As such, eligible heavy-duty truck projects including new vehicle purchases, repowers, and retrofits subject to general criteria cited above.

- Heavy-duty vehicles are eligible for funding if they meet the general program criteria above.

I. Private Fleets

Private on-road heavy-duty diesel vehicle fleets are not currently regulated by a fleet regulation. The Board will consider a proposed diesel particulate control measure for these fleets in 2006, which may impact the project criteria for these projects.

- Private fleet vehicles are eligible for funding if they meet the general program criteria above.

J. Public Fleets

Municipal or utility-owned on-road heavy-duty diesel-fueled vehicles are not currently regulated by a fleet regulation. The ARB will consider a proposed diesel particulate control measure for these fleets in November 2005, which may impact the project criteria for these projects. Due to low mileage, these projects are generally only eligible for small grant amounts.

- Public fleet vehicles are eligible for funding if they meet the general program criteria listed above.

K. School Buses

- School bus fleets in the South Coast Air Quality Management District (SCAQMD) may be impacted by fleet rules scheduled to be considered by the Board in September 2005.

- School buses are eligible for Carl Moyer Program funding if they meet the general program criteria above; however, their relatively low annual miles traveled allows for minimum grant amounts.

L. Solid Waste Collection Vehicles

Solid waste collection vehicles (SWCV) are subject to a statewide diesel particulate matter airborne toxic control measure (ATCM) for SWCVs. Projects that meet the following criteria provide emission reductions that are surplus to the regulatory requirements.

- Fleets in the SCAQMD may be impacted by fleet rules scheduled to be considered by the Board in September 2005.

- Projects are subject to the general program criteria listed above.

- All SWCV projects must submit evidence of compliance with the SWCV rule or documentation to show that the funds will not be used to meet the rule's requirements. Documentation must include the name of the company, address, and fleet terminal(s) names and locations. Documentation must also include company records identifying the vehicles in their total fleet including: listing them by the terminals out of which they operate, model years of vehicles and engines in the fleet, VINs, serial numbers, engine families, series, status as active or backup vehicle. The companies must also identify out of which terminal the vehicles potentially receiving Carl Moyer Program funds operate.

- Group 2b of the SWCV ATCM is eligible for funding for 25 percent of the fleet through 12/31/2006, if 100 percent of the fleet is in compliance with the SWCV regulation. Maximum project life for these projects is 3 years.

- Group 3 of the SWCV ATCM is eligible for funding for 100 percent of the fleet through 12/31/2007, if 100 percent of the fleet is in compliance with the SWCV regulation.

- During 2007 to 2009, new vehicle purchases must meet the new vehicle purchases requirements above, and must be certified to 0.2 g/bhp-hr for NOx.

- Surplus NOx reductions from retrofit projects are eligible for funding as described in the retrofit criteria above.

M. Street Sweepers and Other Stop-and-Go Vehicles

Stop-and-go vehicles such as street sweepers may be included in the public fleet rule scheduled to be considered by the Board in November 2005. This may impact the project criteria for these projects.

- Street sweepers projects that are surplus to regulations are eligible for funding for new purchase, repower, and retrofit projects. See the general program criteria listed above.

N. Transit Fleet Vehicles (Non-Urban Buses and Transit Vehicles)

Transit fleets include commuter service buses and or transit fleet vehicles that are not urban buses. These fleets are subject to ARB's Transit Fleet Rule.

- Projects are subject to the general program criteria listed above.

- Projects will be considered on a case-by-case basis. All projects must submit evidence of compliance with the Transit Fleet Rule or documentation to show that the funds will not be used to meet the rule's requirements. Documentation must include the transit agency's Transportation Implementation Plan (TIP) and annual ARB updates. If data included in the TIP is not sufficient, districts and/or ARB can require additional documentation.

- Through 2006, new vehicle purchases by transit agencies are eligible for Carl Moyer Program funding if the engine is certified to the optional standard of 1.8 g/bhp-hr for NOx + NMHC.

- From 2007 to 2009, new vehicle purchases must be certified to 0.2 g/bhp-hr for NOx to be eligible for Carl Moyer Program funding.

- Transit agency fleets established before 1/1/2007 are eligible for repower and retrofit projects if documentation is provided that shows:
  1. The whole fleet has met the 2.4 g/bhp-hr NOx fleet average, and
  2. PM reductions of 80 percent compared to January 1, 2005 PM levels or equal to 0.01 g/bhp-hr times the total number of transit fleet vehicles in the current fleet, whichever is greater.

- Transit agency fleets established after 1/1/2007 are eligible for Carl Moyer Program funds for repower and retrofit projects through 12/31/07 if documentation is provided that shows:
  1. The whole fleet has met the 2.4 g/bhp-hr NOx fleet average, and
  2. PM reductions of 50 percent compared to the fleet's baseline when established.

- Transit agency fleets established after 1/1/2007 are eligible for Carl Moyer Program funds for repower and retrofit projects beginning 1/1/2008 if documentation is provided that shows:
  1. The whole fleet has met the 2.4 g/bhp-hr NOx fleet average, and
  2. PM reductions of 80 percent compared to the fleet's baseline when established.

O. Urban Transit Buses

Urban transit buses are subject to ARB's Public Transit Agency Vehicle Rule.

- Urban bus fleets statewide may be impacted by Urban Bus Emission Standard changes scheduled to be considered by the Board in September 2005.

- Fleets in the SCAQMD may be impacted by fleet rules scheduled to be considered by the Board in September 2005.

- Projects are subject to the general program criteria listed above.

- Projects will be considered on a case-by-case basis. All urban bus projects must submit evidence of compliance with the Public Transit Agency Vehicle Rule or documentation to show that the funds will not be used to meet the rule's requirements. Documentation must include the transit agency's TIP and annual ARB updates. If data included in the TIP is not sufficient, district and/or ARB can require additional documentation.

- For urban bus new vehicle projects, only the portion not funded by the Federal Transit Administration (FTA), is eligible for Carl Moyer Program funding. Proper documentation must be provided. The full incremental cost for an urban transit bus that is not funded by FTA may be granted under the Carl Moyer Program. Operation and maintenance costs are not eligible for Carl Moyer Program funding.

- Through 2006, alternative fuel buses are eligible for Carl Moyer Program funds for new bus purchases if the engine is certified to the optional standard of 1.8 g/bhp-hr for NOx + NMHC.

- Through 2006, diesel fuel buses are eligible for Carl Moyer Program funds for new bus purchases if the engine is certified to 0.2 g/bhp-hr for NOx.

- Urban bus fleets established before 1/1/2005 that are on the diesel fuel-path are eligible for Carl Moyer Program funds for repower and retrofit projects if documentation is provided that shows:
  1. The whole fleet has met the 4.8 g/bhp-hr NOx average, and
  2. PM reductions of 85 percent compared to January 1, 2002 PM levels or equal to 0.01 g/bhp-hr times the total number of current diesel-fueled active fleet buses, whichever is greater.

- Urban bus fleets established before 1/1/2005 that are on the alternative fuel-path are eligible for Carl Moyer Program funds for repower and retrofit projects if documentation is provided that shows:
  1. The whole fleet has met the 4.8 g/bhp-hr NOx average, and
  2. PM reductions of 60 percent compared to January 1, 2002 PM levels.

- Urban bus fleets established after 1/1/2005 are eligible for Carl Moyer Program funds for repower and retrofit projects if documentation is provided that shows:
  1. The whole fleet has met the 4.0 g/bhp-hr NOx average, and
  2. May not have a diesel PM emission total exceeding 0.01 g/bhp-hr (exhaust emission value) times the total number of diesel-fueled buses in the active fleet.

- Hybrid electric bus (HEB) new purchases will be considered on a case-by-case basis, if the HEB is certified to the current NOx and PM standards.

Proposed Criteria for On-Road Heavy-Duty Fleet Modernization Projects

- Emission reductions obtained through Carl Moyer Program projects must not be required by any federal, state or local regulation, memorandum of agreement/understanding with a regulatory agency, settlement agreement, mitigation requirement, or other legal mandate.

- Projects must meet a cost-effectiveness of $14,300 per weighed ton of NOx + ROG + combustion PM10 reduced calculated in accordance with the cost-effectiveness methodology discussed in this chapter.

- No emission reductions generated by the Carl Moyer Program shall be used as marketable emission reduction credits, or to offset any emission reduction obligation of any person or entity.

- No project funded by the Carl Moyer Program shall be used for credit under any federal or state emission averaging banking and trading program.

- Carl Moyer Program grants can be no greater than a project's incremental cost. The incremental cost is the cost of the project minus the baseline cost. The incremental cost shall be reduced by the value of any current financial incentive that reduces the project price, including tax credits or deductions, grants, or other public financial assistance.

- Projects must have a minimum project life of three years. ARB may approve shorter project life on a case-by-case basis. Projects with shorter lives may be subject to additional funding restrictions, such as a lower cost-effectiveness limit or a project cost cap.

- Participating districts retain the authority to impose additional requirements in order to address local concerns.

I. Participant Requirements

A. The following categories of vehicles are eligible for Carl Moyer Program funding:

1. Open Category: Vehicles from any vocation or fleet size, provided the participant submits conclusive documentation of annual mileage and vehicle usage in California. The maximum project life is three years.

2. Targeted Vocation Category: Vehicles operating in agricultural, construction, mining, port hauling, and forestry vocations, or vehicles that move goods in and out of ports and rail yards. The maximum project life is five years.

B. The old vehicle must have both engine and chassis of model year 1990 or older.

C. The old vehicle must have been registered California for the previous three years.

D. The old vehicle must be in operational condition to qualify for funding. Operating condition must be determined through a California Highway Patrol's Biennial

Inspection of Terminals (CHP BIT) or an equivalent inspection. The inspection must identify any needed repairs and the estimated cost of the repairs. Operating condition must be verified by either:

1. A visual and operation inspection conducted by district personnel, or

2. The carrier company may submit a completed CHP 90-Day Safety Inspection Form documenting their inspection and the estimated cost of any repairs, or

3. A participating dealership or carrier company may conduct the inspection of the old vehicle and provide pictures verifying the vehicle condition. The dealer must provide a completed CHP 90-Day Safety Inspection Form and documentation of any necessary repairs. The participant will pay the cost of the inspection, or

4. Other methods as approved by the ARB.

E. The participant must currently own and operate the old vehicle. If it is unclear whether a vehicle is owned or leased by a participant, the district will determine whether the vehicle is eligible.

F. The participant must maintain replacement value insurance coverage for the project life.

G. The participant must be in compliance with air quality laws; all outstanding citations must be paid up.

II. Participant Performance Requirements

A. The replacement vehicle must operate in the same vocation/s for the project life. The participant must stay in the contracted vocation/s for a minimum of 85 percent of the miles, as specified in the application. If a change of vocation is required to stay in operation, a written explanation must be provided to the district and approved by the ARB.

B. The total accumulated mileage on the replacement vehicle cannot be over 150 percent of the average historic mileage for the past three years. Exceptions to this must be submitted in writing to the district staff and approved by the ARB.

C. Minimum Reporting Requirements:

1. If the participant has a *California Motor Carrier Permit*, a current copy must be submitted to the district annually. If the participant does not have a California Motor Carrier Permit, the participant must provide proof of insurance and registration must be provided to the district annually.

2. The participant must provide annual reports for the life of the project. The report on the replacement truck will include information such as the number of hours of operation, miles driven in the district and California, the amount of fuel consumed in the twelve months preceding the report date, details regarding maintenance and

servicing, and any other items specified by the district. Mileage statements are not required if an electronic monitoring unit provides mileage data.

3. Participants from targeted vocation categories must provide documentation of vocation on an annual basis.

4. If the replacement vehicle is involved in an accident, the participant must report the accident to district staff within 14 days.
    a. The participant will be required to provide a police report of the accident, a letter from the insurance company regarding the accident and any additional information requested by the district.
    b. The participant is required to repair the vehicle and return it to operation, if possible.
    c. Down time due to an accident will be credited toward the performance requirements as along as the information is reported as requested and the repairs are made as soon as possible.
    d. If the vehicle is totaled, the participant and the district staff must come to an agreement regarding any requirements that still need to be met.

III. Application Requirements

The following items must accompany the completed application at the time of submittal:

A. A copy of the old vehicle title.

B. Copies of California Motor Carrier Permits and permit applications for the last three years. If the participant does not have a Motor Carrier Permit, submit copies of the Department of Motor Vehicle registration and proof of insurance for the old vehicle for the last three years.

C. If the Fleet Modernization Program standardized mileage is <u>not</u> used to qualify for the program, the participant must provide mileage verification for the previous three years.

D. Proof of vehicle vocation for the last three years.

E. Purchase order for purchase of the replacement vehicle.

F. The participant may be required to provide either:

1. Copies of the participant's United States IRS Form 2290 (Heavy Highway Vehicle Use Tax Return) for the previous three years, or a

2. United States Internal Revenue Service Schedule C

G. If the old vehicle engine tag is missing, the participant may be required to provide a dynamometer printout of the engine horsepower from a participating engine dealership, or another means of obtaining the required information approved by the ARB.

H. The district may request any additional information.

IV. Funding Requirements

A. Grant award determinations may be made using one of the following methods:

1. Funding awards are based on the average miles/year driven during the previous three years. Participants must provide conclusive documentation of their mileage and must meet an 80 percent minimum baseline mileage requirement for the life of the project. Examples of sufficient documentation include logbooks, fuel records, and maintenance records maintained for individual vehicles. Fleet averages can not be used.

2. Participants from the targeted vocation category may use a standardized mileage of 27,500 miles/year to determine cost effectiveness. This includes vehicles operating in agricultural, construction, mining, port hauling, and forestry vocations, or vehicles that move goods in and out of ports and rail yards. Participants from the open-category must submit documentation of annual miles traveled for the previous three years to determine cost effectiveness.

B. The cost of repairs needed for the old vehicle will be subtracted from the grant award. Repair costs are identified during the inspection verifying the operating condition of the old vehicle.

C. Fleet modernization projects have a minimum project life of three years. Project life is the number of years that a Carl Moyer Program project must operate in California under the conditions specified in the grant funding agreement.

D. Fleet modernization project life must be equal to the project contract life.

E. The project funding amount must meet the Carl Moyer Program cost-effectiveness limit of $14,300 per weighted ton of NOx + combustion PM10 + ROG reduced.

F. The funding amount of a <u>used</u>, replacement vehicle shall not exceed 72 percent of the value of the vehicle given by the National Automotive Dealership Association (N.A.D.A.) commercial vehicle guide adjusted loan value. The funding amount of a <u>new</u> replacement vehicle shall not exceed 80 percent of the invoice price.

G. The participant may obtain financing to assist in the purchase of a replacement vehicle.

H. The participant agrees to repay a pro-rated portion of the incentive funding for failure to fulfill the minimum performance requirements.

V. Replacement Vehicle Requirements

All replacement vehicles must meet the following conditions before funding is awarded to the participant.

A. Model Year: The replacement vehicle must have both an engine and chassis model year of 1999 and newer

B. Engine Horsepower Requirements: The horsepower rating for the replacement vehicle engine must not be greater than 120 percent of the original manufacturer rated horsepower (baseline horsepower) for the old vehicle engine. This is necessary because engine horsepower is related to the emissions produced by heavy-duty diesel engines. Auditing of the replacement vehicle's horsepower may occur throughout the length of the agreement. Participants may use any one of the following methods to determine the horsepower acceptable for the replacement vehicle engine:

1. The horsepower rating listed on the old engine tag, or

2. The results of a dynamometer test, which will take into account a 15 percent loss in actual horsepower, based on transmission loss. The participant must pay the cost of dynamometer testing.

In the event the replacement engine horsepower is more than 20 percent greater than the old vehicle, it must be derated (reduced) to not exceed the 20 percent allowable increase. The 20 percent allowable increase in horsepower is calculated as follows:

(Old Engine Horsepower) x (1.20) = Maximum New Engine Horsepower
(Example: 300 HP x 1.20 = 360 HP)

In limited situations, the district may approve a greater than 20 percent increase in horsepower.

C. Weight Class: Vehicles must be greater than 14,000 lbs GVWR vehicle weight class. The replacement vehicle must be in the same weight class as the old vehicle.

D. Body and Axle Configuration: The replacement vehicle must have the same axle and body configuration as the old vehicle. The district may allow slight changes based on the latest technology. Changes must be requested and approved prior to the purchase of the replacement vehicle.

E. Warranty Requirements: All participants must purchase a minimum of a one-year or 100,000-mile major component engine warranty for the replacement vehicle. The warranty must cover parts and labor. It is recommended that the highest grade warranty be purchased in order to avoid expensive repairs in the future. No Carl Moyer funds will be issued for maintenance or repairs related to the operation of the vehicle. The participant takes sole responsibility for ensuring that the vehicle is in operation condition throughout the agreement period.

F. ARB Verified Diesel Emission Control Strategy Device: An ARB verified diesel emission control strategy device (DECS) is required on all replacement vehicles funded after September 2006, when low-sulfur diesel fuel will be available throughout California.

1. In selecting the appropriate device for the project, preference shall be given to the device providing the highest level of NOx and PM reductions.

2. The device must be installed prior to vehicle delivery to the participant and must stay in operation on the replacement vehicle for the project life.

3. The cost of the device, and all filters needed during the project life, may be paid for with incentive funding provided it meets the cost-effectiveness limit.

4. Upon approval of the ARB, the district may waive the requirement for installation of the DECS. The waiver must be based upon the specifics of individual projects, including cost, vehicle duty cycle restrictions, availability, and other factors.

5. Future maintenance for the retrofit emission reduction device may be paid for with incentive funding, if it meets the cost-effectiveness limit.

6. Data-logging may be conducted on the old vehicle to determine the proper DECS device needed for the replacement vehicle. Data-logging, which is the collection of exhaust temperatures, is conducted while a vehicle is in service. Data-logging may be paid for with incentive funding, if it meets the cost-effectiveness limit.

7. The participant must maintain the device as specified by the manufacturer's warranty requirements. The participant must provide maintenance reports to the district as required.

8. If an ARB-approved DECS device is not available at the time the replacement vehicle is purchased, or if the replacement vehicle was purchased prior to September 2006, a DECS will be installed when a DECS compatible with the engine and the vehicle duty cycle has been verified by ARB, unless otherwise stipulated at the time of purchase by the district.

9. Vehicles outfitted with dual exhaust will be addressed on a case-by-case basis. The district will determine if no DECS is required, or if a DECS shall be installed on both exhaust tailpipes, or if the exhaust shall be converted to a single pipe with a DECS.

G. Electronic Monitoring Unit: The electronic monitoring unit (EMU) electronically reports vehicle miles traveled and the number of miles a vehicle has operated within the California and district boundaries. An EMU is required on all replacement vehicles.

1. Installation and maintenance of the EMU may be included in the cost of the project.

2. If an affordable and suitable EMU is not available at the time the replacement vehicle is ready for delivery, the vehicle may be delivered to the applicant. The owner will be required to return the vehicle to the dealer when an EMU is available for installation. Verification of the installation must be submitted to the district following installation.

3. EMU data must be reported to the district for the project life.

4. If the EMU is not functioning properly, the participant will submit mileage reports as specified the district.

5. Upon approval of the ARB, the district may waive the requirement for installation of an EMU.

H. Engine and Emission Control Modifications: Emission controls on the replacement vehicle engine cannot be modified in any manner. Unauthorized modification to engine performance (including changes in horsepower), emission characteristics, engine emission components (not including repairs with like-original equipment manufactures replacement parts), or any other modifications to the engine's emission control function or the EMU are not allowed.

VI. Dealer Requirements

Vehicle dealers are encouraged to help in the application process as much as possible. Districts are encouraged to establish contracts with dealers that are selling replacement vehicles to fleet modernization participants. Participants may purchase the replacement vehicle from a private party, provided warranty and all other fleet modernization requirements are meet. Reimbursement cannot be issued until all forms are submitted and approved by the district.

A. Vehicle dealers are expected to:

1. Provide basic information about the fleet modernization program. Training will be provided for dealer's staff to act as liaisons with the district.

2. Inform participants of rights and responsibilities as outlined in the district and ARB guidelines.

3. Help the participants complete the application. It is important to make sure that all information is filled out correctly and that the participant understands the meaning of the application.

4. The vehicle dealers will ensure that the participant completes all of the program requirements. The district will provide all forms and certificates as appendices to the application. Once complete, the dealer will submit a complete application package to the district.

B. To ensure that an application package is complete, the dealer will make sure that all the following items are complete and included in the participant's submission to the district:

- A signed and complete application.

- To ensure that the old vehicle is roadworthy and has been in use for at least the last three years: submit documentation that the old vehicle has passed a CHP BIT inspection in the past 90 days or conduct an equivalent vehicle inspection and sign as appropriate. The district reserves the right to audit the dealer's record of inspection.

- Provide N.A.D.A. adjusted loan value paperwork or copy of the vehicle invoice showing purchase price and options for the replacement vehicle. The incentive amount available for the purchase of the vehicle will be based upon three criteria:

    (a) cost-effectiveness of the project based upon the weighted NOx + combustion PM10 + ROG emission benefits as calculated by the district;
    (b) the value of the vehicle based upon the N.A.D.A. adjusted loan value or new vehicle invoice price; and,
    (c) less any costs associated with repairs noted during the vehicle inspection.

  The maximum reimbursement for all awards will be the N.A.D.A. adjusted loan value of the replacement truck or the maximum calculated incentive -- whichever is less. If suitable equipment is available and deemed cost-effective by the district, supplemental incentive funding will be provided to cover installation of a DEC and/or an EMU. The incentive funds shall not cover any sales taxes. The remaining cost of the replacement vehicle is the financial responsibility of the participant.

- Invoices of all work performed on the replacement vehicle must be provided before reimbursement can be made. The invoices must include all engine, transmission, body and other work performed on the replacement vehicle. In addition, the dealer must provide proof of sale of the replacement vehicle. Invoices must include the installation of all equipment required by this program:

    a. EMU (at the discretion of the district)
    b. Diesel emission control device (at the discretion of the district)
    c. Engine horsepower derated, if necessary

- Digital photographs of the old vehicle and the replacement vehicle must be taken and submitted to the district. The district will specify the required digital format. Reimbursement will not be processed until all photographs are received and verified by the district. Please verify clarity of pictures before turning them into the district. All Vehicle Identification Numbers (VIN) and engine serial numbers must be legible.

  Photographs of the old vehicle must include the following views:
    (a) Right Side - hood down
    (b) Front - hood down
    (c) Left Side - hood down
    (d) VIN Tag - inside vehicle or on frame rail
    (e) Engine - left side
    (f) Engine - right side
    (g) Engine Serial Number - either tag or stamp on block
    (h) License plate
    (i) Rear

  Photographs of the replacement vehicle must include the following views:
    (a) Right Side - hood down
    (b) Front - hood down
    (c) Left Side - hood down

(d) VIN Tag - inside vehicle
(e) VIN Tag - on frame rail
(f) Engine - left side
(g) Engine - right side
(h) Engine Serial Number and Engine Information – tag
(i) License plate
(j) Rear
(k) Electronic Monitoring Unit (in working condition)
(l) Diesel Emission Control Device (if available)
(m)Odometer Reading
(n) Additional modifications (if applicable)

- The vehicle dealer must provide a certification that the old vehicle will be delivered to a qualified salvage yard. The certification must state that the dealer will deliver the vehicle to the salvage yard within 30 days of receipt of the old truck. The contract must include the make, model, year, VIN, engine make, engine serial number, and the date the vehicle is expected to be delivered. It is the dealer's responsibility to ensure that the salvage actually occurs, to obtain the completed Certificate of Vehicle Destruction, and to ensure that the Certificate of Vehicle Destruction has been filed with district. The district will not cover the salvage costs.

- Provide documentation of replacement vehicle warranty and registration.

- Provide proof of replacement vehicle financing. The financing package will enable the district to determine the reimbursement costs that may be accrued in case the participant defaults on the contracted performance requirements.

- Provide the district with invoices of all work completed. Each vehicle dealership is required to submit the invoices for district review.

VII. Salvage Requirements

Destruction of the old vehicle chassis and engine permanently removes the old, high emitting vehicles from service. The old vehicle must be taken to a qualified vehicle salvage yard for destruction. Vehicle salvage yards are required to enter into an agreement with the district to qualify for participation. Qualified vehicle salvage yards are required to be licensed by the DMV as an auto-dismantler; have a current, valid Cal/EPA Hazardous Materials Generators Permit; and be in compliance with all local, state and federal laws and regulations.

Funding is not available for the salvage of any old vehicle. The vehicle salvage value will be negotiated between the dealership and the salvage yard.

A. The salvage yard operator must:

- Dismantle the old vehicle within 60 days of receipt. The destruction must be done in accordance with program guidelines.

- Drill a hole in the engine block of the old vehicle to ensure that block will not be used again.

- Cut the frame rails of the old vehicle to ensure that the vehicle will not be used again.

- Take photographs of the hole in the engine block and the cut frame rails. Photographs of the destroyed engine block and cut frame rails must be provided to the district within 10 (ten) business days of salvaging the vehicle. The following picture views should be taken:
    a. Front of vehicle with hood down
    b. Right side of vehicle with hood down
    c. Left side of vehicle with hood down
    d. Serial number printed either on the tag inside in the cab or on the frame rail
    e. Engine side view
    f. Engine serial number either stamped on the block or on the tag
    g. Hole in the engine block either in-frame or out of frame
    h. Cut frame rails

- File a "Non-Repairable Vehicle Certificate" with the DMV.

B. Upon request of the district, ARB may approve an alternative disposition for the old vehicle.

VIII. District Requirements

Districts must establish fleet modernization policies and guidelines before they can fund fleet modernization projects. There is a myriad of administrative tools needed to manage a fleet modernization program. This includes forging agreements with local dealerships and salvage yards, reimbursement procedures, the development of contracts, etc. The ARB must approve district fleet modernization policies and guidelines prior to district implementation of a fleet modernization program. The ARB will provide examples for district use. The district's fleet modernization guidelines must address all of the above criteria as well as the following items:

A. Recovery of Incentive Funds: The district must establish a mechanism to assure the participant fulfills all contractual obligations. This includes owning and operating the replacement vehicle for the project life, and staying in the agreed upon vocation for the duration of the contract. The district will determine the method of notice and achieving fund recovery. Options may include:

1. List the district as co-lien holder on the title of the replacement vehicle for the term of the agreement. The participant must submit a completed UCC-1 Financing Statement Form to the California Secretary of State, with a copy sent to the district, within 30 days of the purchase of the replacement vehicle. The financing statement must have the district as the secured party and the vehicle should be listed as collateral.

2. The participant must be the legal and registered owner of the replacement vehicle for the project life. If the replacement vehicle is sold within the project life, the new owner must assume the obligations under the participant's contract with the district and comply with the terms and conditions of the contract. The district must approve of the change in ownership prior to the sale.

B. Tiered Transactions: Districts may establish a tiered transaction component within their fleet modernization program. A tiered transaction combines the emission reductions achieved from the purchase of a new vehicle meeting the optional NOx standard with the replacement of a 1990 or older vehicle. In the tiered transaction, the purchaser of a new vehicle meeting the optional standard contributes a 1999 or newer replacement vehicle to the program. A second participant acquires the replacement vehicle and scraps a 1990 or older vehicle. Tiered transaction programs should include the following elements; however districts may request ARB consider alternative components:

1. Both participants are subject to all the requirements of the fleet modernization guidelines.

2. In determining the grant award for the purchaser of the new vehicle, the emission benefits and cost effectiveness of the project may include two transactions:

   (a) Emission reductions from the currently applicable standard to the new vehicle meeting the optional standard, and
   (b) Emission reductions from the old vehicle to the replacement vehicle.

3. The baseline cost for the new vehicle purchase is the cost of a new vehicle that meets the current emission standards. The incremental cost eligible for funding is the cost of the vehicle meeting the optional standard minus cost of the vehicle meeting the existing standards. This is the standard method used for new, on-road Moyer projects.

4. Emission reductions from the old vehicle are based on the annual mileage traveled by the old vehicle.

5. The purchaser of the new vehicle is not eligible for emission reductions from scrapping an old vehicle within his/her own fleet.

Proposed Project Criteria For Heavy-Duty Truck Idling Reduction Technologies

The project criteria for eligible idling reduction strategies for heavy-duty vehicles provide districts and fleet operators with the minimum requirements for participation in the Carl Moyer Program. The criteria are developed specifically for idling reduction technologies, such as auxiliary power units (APUs), that may be installed on a heavy-duty truck to reduce the truck's idling emissions. In addition, ARB may develop additional criteria for idling reduction strategies when suitable technologies enter the market.

Idling reduction technologies provide a cost-effective means to reduce idling emissions from heavy-duty diesel trucks. However, because of the attractive life-cycle cost of this technology, Carl Moyer Program funds cannot pay for the full cost of idling reduction equipment. Fuel savings to the truck operator offer a return on the investment that eventually offsets the initial capital cost of the equipment. Thus, the role of an incentive program is to promote the introduction of the technology in the near term. The payback period and the amount of fuel savings depend on the total cost of the unit, actual idling hours, fuel prices, and maintenance costs. A maximum amount of $1,700 per diesel APU, and $3,400 per alternative fuel or alternate technology is allowed in this project category.

These limits have been revised for cost of living increases relative to those previously allowed under the September 2003 Carl Moyer Program guidelines. This amount is intended to defray the installation cost. The grant amount depends on the installation costs for the project, but in no case can funding exceed $1,700 for a diesel APU and $3,400 for an alternative fuel, electric, or fuel cell APU. Eligibility criteria continue to be based on emission reductions, cost-effectiveness, and ability for the project to be completed within the time frame of the program.

For additional information about funding electric idle reduction strategies, please see the “Zero-Emission Projects” section.

Participating districts retain the authority to impose additional requirements in order to address local issues.

- These criteria may be affected by a proposal to regulate idling of sleeper cabs and emissions from APUs that the Board will consider in October 2005.

- Emission reductions obtained through Carl Moyer Program projects must not be required by any federal, state or local regulation, memorandum of agreement/understanding with a regulatory agency, settlement agreement, mitigation requirement, or other legal mandate.

- Projects must meet a cost-effectiveness of $14,300 per weighed ton of NOx + ROG + combustion PM10 reduced calculated in accordance with the cost-effectiveness methodology discussed in this chapter.

- No emission reductions generated by the Carl Moyer Program shall be used as marketable emission reduction credits, or to offset any emission reduction obligation of any person or entity.

- No project funded by the Carl Moyer Program shall be used for credit under any federal or state emission averaging banking and trading program.

- Carl Moyer Program grants can be no greater than a project's incremental cost. The incremental cost is the cost of the project minus the baseline cost. The incremental cost shall be reduced by the value of any current financial incentive that reduces the project price, including tax credits or deductions, grants, or other public financial assistance.

- Projects must have a minimum project life of three years. ARB may approve shorter project life on a case-by-case basis. Projects with shorter lives may be subject to additional funding restrictions, such as a lower cost-effectiveness limit or a project cost cap.

- Projects with more than a 5 year project life must have a contract term of at least 5 years.

- Potential projects that fall outside of these criteria may be considered on a case-by-case basis if evidence provided to the air district suggests potential surplus, real, quantifiable, and enforceable emission reduction benefits.

- Eligible projects must provide at least 15 percent NOx emission benefit compared to baseline idling NOx emissions.

- The engine used in an APU must meet current emission standards and be certified by the ARB for sale in California. Compliance with all applicable durability and warranty requirements is also required.

- If an internal combustion engine APU is available with an electric option, ARB strongly recommends installation of the APIS with an electric option. The incremental cost of the electric option may be added to the $1,700 installation cost for a diesel APU.

- An hour-meter must be installed with an APU to track operation. This information must be provided to ARB or the participating district upon request during the life of the project.

- The default load factor for the IC engine used in an APU will be the maximum power rating of the engine, unless another load factor is proposed and supported by proper documentation.

- Emission benefits must be based on the vehicle's idling time that occurs in California. At least 75 percent of the truck idling time must be in California. Exceptions may be considered on a case-by-case basis.

- The actual installation cost of an APU including installation of an hour meter, or up to a maximum of $1,700 per diesel APU installation, and a maximum of $3,400 per alternative fuel, electric, or fuel cell APU installation may be funded, whichever is less.

Proposed Off-Road Compression-Ignition Engine Project Criteria

Participating districts retain the authority to impose additional requirements in order to address local concerns.

Off-Road In-Use Control Measure

ARB is currently developing a control measure to reduce diesel particulate matter emissions from in-use, off-road diesel-fueled mobile equipment greater than 25 horsepower. This item is tentatively scheduled to be presented to the Board in 2006. When approved, it may impact project criteria for these projects.

Cargo Handling Equipment Regulation

ARB is developing a cargo handling equipment regulation that is scheduled for Board consideration in November 2005. This regulation may affect project eligibility for cargo handling equipment.

General Project Criteria

- Emission reductions obtained through Carl Moyer Program projects must not be required by any federal, state or local regulation, memorandum of agreement/understanding with a regulatory agency, settlement agreement, mitigation requirement, or other legal mandate.

- Projects must meet a cost-effectiveness of $14,300 per weighed ton of NOx + ROG + combustion PM10 reduced calculated in accordance with the cost-effectiveness methodology discussed in this chapter.

- No emission reductions generated by the Carl Moyer Program shall be used as marketable emission reduction credits, or to offset any emission reduction obligation of any person or entity.

- No project funded by the Carl Moyer Program shall be used for credit under any federal or state emission averaging, banking and trading program.

- Carl Moyer Program grants can be no greater than a project's incremental cost. The incremental cost is the cost of the project minus the baseline cost. The incremental cost shall be reduced by the value of any current financial incentive that reduces the project price, including tax credits or deductions, grants, or other public financial assistance.

- Projects must have a minimum project life of three years. ARB may approve shorter project life on a case-by-case basis. Projects with shorter lives may be subject to additional funding restrictions, such as a lower cost-effectiveness limit or a project cost cap.

- Projects with more than a 5 year project life must have a contract term of at least 5 years.

- Potential projects that fall outside of these criteria may be considered on a case-by-case basis if evidence provided to the air district suggests potential surplus, real, quantifiable, and enforceable emission reduction benefits.

- The certification emission standard and Tier designation for the engine must be determined from the Executive Order issued for that engine, not by the engine model year.

- Reduced emission engines or retrofit kits must be certified/verified for sale in California and must comply with durability and warranty requirements. These may include new ARB certified engines, ARB certified after-market part engine/control devices, and verified diesel emission control strategies.

- Engines participating in the Averaging, Banking and Trading (ABT) program that are certified to Family Emission Levels (FEL) higher than the applicable emission standards, as designated on the Executive Order, are ineligible to participate in the Carl Moyer program.

- Equipment manufactured under the "Flexibility Provisions for Equipment Manufacturers", as detailed in title 13, CCR, section 2423(d), are ineligible for Carl Moyer funding.

- Engines that are participating in the "Tier 4 Early Introduction Incentive for Engine Manufacturers" program, as detailed in title 13, CCR, section 2423(b)(6), are ineligible for Carl Moyer funding.

- Funded projects must operate at least 75 percent of total equipment hours in California.

- Default maximum project life

	Maximum
Off-road new purchase	10 years
Off-road repower	7 years
Retrofit	5 years

Project life beyond the default maximum may be submitted for approval by ARB with documentation.

New Equipment Purchases

- Engines must be certified to an ARB optional NOx or NOx+NMHC emission credit standard for off-road diesel engines that is at least 30 percent lower than current applicable emission standards.

- Engines that are certified to FEL levels are not eligible for funding in new equipment purchase projects.

Repowers

- For repower projects that replace uncontrolled engines in existing equipment, the replacement engine must be certified either 1) to the current applicable emission standard except as noted below, 2) to a FEL NOx or NOx+NMHC level that is lower than the required emission standard, or 3) to an optional credit emission standard as applicable for the horsepower rating.

- For equipment repower projects that replace emission-certified engines in existing equipment, the replacement engine must be certified to a NOx emission standard that is at least 15 percent lower than the emission standards applicable to the existing engine.

- Engines used in equipment repower projects may be new, emission-certified rebuilt, or emission-certified remanufactured units. Eligible rebuilt or remanufactured engines are those offered by the original equipment manufacturer (OEM) or by a non-OEM rebuilder that demonstrates to the ARB that rebuilt engine and parts are functionally equivalent from an emissions and durability standpoint to the OEM engine and components being replaced. Rebuilt and remanufactured engines that are not re-certified to new emission standards shall use the emission standards associated with the original engine.

- ARB strongly recommends that districts prioritize Tier 2 or Tier 3 repowers. However, staff recognizes that in some cases repower with the current applicable standard is not possible. In these cases a Tier 1 repower may be allowed if the conditions below are met. *ARB staff are taking comment on the best way to prioritize Tier 2 and Tier 3 repowers. One method the staff is considering is a project cost effectiveness cap of approximately $6000 for Tier 1 repowers, based on a weighted cost effectiveness calculation of NOx + ROG + 10 x (combustion PM).*

- If repower with an engine meeting the current applicable standard is technically infeasible, unsafe, or cost prohibitive, the replacement must meet a previously applicable emission standard. The determination of eligibility of a Tier 1 engine repower project shall be made on a case-by-case basis by obtaining a Tier 2/Tier 3 repower exemption.

  There are two ways to obtain a Tier 2/Tier 3 repower exemption:
  1. The Carl Moyer Program application may include a written statement of reason(s) from the engine manufacturer verifying that a particular piece of equipment cannot accommodate an engine meeting current standards without major modifications, safety risks, or exorbitant cost. The letter must include information on the equipment being repowered, the engine being replaced, the reason why an engine meeting the currently applicable standard can not be used (including details on required equipment modifications with pictures of the equipment, engineering drawings, as necessary, and cost for the Tier 2/Tier 3 engine), and the proposed Tier 1 replacement engine. Districts must submit the written statement of reason(s) to ARB as an attachment to the annual report.
  2. The engine manufacturer may provide ARB with sufficient information on engine and/or equipment models for which Tier 2/Tier 3 repowers are available, and engine and/or equipment models for which Tier 2/Tier 3 repowers were determined not to be

feasible. Engine manufacturers that are interested in pursuing this option should contact ARB.

- If an ARB-verified diesel emission control strategy (DECS) is available for the replacement engine, ARB requires installation of the retrofit verified to the highest level which still meets the cost effectiveness limit of $14,300 as discussed in the retrofit section of these project criteria.

- For repowers of equipment with baseline engines manufactured under the flexibility provision, baseline emission rates will be determined by using the latest applicable Tier emission standard for that engine model year and horsepower rating. Alternative emission rates will be allowed with documentation of the actual emission rates from the manufacturer based on the engine serial number. Districts must submit all documentation to ARB as an attachment to the annual report.

- Replacement of an uncontrolled diesel off-road engine with a new or rebuilt on-road engine certified to an emission standard equal to or lower than the Tier 2 off-road emission standard or a newer emission-certified alternative fuel engine is eligible for funding. These repowers must meet all other applicable project criteria.

- The baseline engine in a repower project must be scrapped. District may include core charges in the cost effectiveness analysis.

Retrofits

- Only ARB-verified retrofits are eligible for funding.

- Retrofit projects that control PM must use the highest level ARB-verified technology available for the equipment being retrofitted. The following are the diesel PM reductions for each verified level:
  - Level 1 - 25 percent;
  - Level 2 - 50 percent; and
  - Level 3 - 85 percent.

- Retrofit projects that control NOx must reduce NOx emissions from uncontrolled engines to the current applicable emission standard. If this is not feasible, the project must reduce NOx to at least the applicable Tier 1 NOx emission level (6.9 g/bhp-hr or lower). For emission-certified engines, the retrofit technology must be able to reduce NOx emissions by at least 15 percent.

- The cost of the DECS, and all filters needed during the project life, may be paid for with incentive funding provided it meets the cost effectiveness limit.

- Future maintenance for the DECS may be paid for with incentive funding, if it meets the cost effectiveness limit.

Diesel Forklift Repower

Only repowers of Class 7 diesel forklifts are eligible for Carl Moyer Program funding. The district must obtain and verify documentation of the classification of the forklift prior to funding since forklifts of smaller size are ineligible for repower using a diesel engine as the replacement engine. Currently repower is the only technology available for reducing emissions from large diesel forklifts. If more technologies become available, they will be subject to all off-road project criteria.

Project Criteria for Transport Refrigeration Units

Participating districts retain the authority to impose additional requirements in order to address local issues.

- Emission reductions obtained through Carl Moyer Program projects must not be required by any federal, state or local regulation, memorandum of agreement/understanding with a regulatory agency, settlement agreement, mitigation requirement, or other legal mandate.

- Projects must meet a cost-effectiveness of $14,300 per weighed ton of NOx + ROG + combustion PM10 reduced calculated in accordance with the cost-effectiveness methodology discussed in this chapter.

- No emission reductions generated by the Carl Moyer Program shall be used as marketable emission reduction credits, or to offset any emission reduction obligation of any person or entity.

- No project funded by the Carl Moyer Program shall be used for credit under any federal or state emission averaging banking and trading program.

- Carl Moyer Program grants can be no greater than a project's incremental cost. The incremental cost is the cost of the project minus the baseline cost. The incremental cost shall be reduced by the value of any current financial incentive that reduces the project price, including tax credits or deductions, grants, or other public financial assistance.

- Projects must have a minimum project life of three years. ARB may approve shorter project life on a case-by-case basis. Projects with shorter lives may be subject to additional funding restrictions, such as a lower cost-effectiveness limit or a project cost cap.

- Projects with more than a 5 year project life must have a contract term of at least 5 years.

- Potential projects that fall outside of these criteria may be considered on a case-by-case basis if evidence provided to the air district suggests potential surplus, real, quantifiable, and enforceable emission reduction benefits.

- Repower projects must provide at least 15 percent NOx emission benefit compared to baseline NOx emission level.

- Projects funded under the Carl Moyer Program program shall not be eligible for the delayed compliance with the ultra-low in-use performance emission standards awarded for early compliance with the low-emission TRU in-use performance standards under the TRU Airborne Toxic Control Measure.

- For repower projects, the replacement engine used in the TRU must meet current emission standards and be certified by the ARB for sale in California. Compliance with all applicable durability and warranty requirements is required.

- For retrofit projects, diesel emission control strategies used on TRUs must be verified by ARB for sale in California. Compliance with all applicable durability and warranty requirements is required.

- Alternate technologies such as electric standby and pure cryogenic systems are not required to be verified, but ARB must review and approve such systems on a case-by-case basis. Recordkeeping and reporting will be necessary to assure proposed emission reductions are achieved.

- An hour-meter must be installed with the TRU to track operating hours. This information must be provided to ARB or the participating district upon request during the life of the project.

- Emission benefits must be based on the TRU operations that occur in California. At least 75 percent of the TRU operation must be in California. Exceptions may be considered on a case-by-case basis.

- Air districts are allowed and encouraged to co-fund projects that will produce emission reductions in more than one air district. Most TRU projects will provide multi-district emission reductions.

- Only the project costs that are paid for with Carl Moyer Program funds and district's co-funding amount are to be included in the cost-effectiveness calculation for qualifying for Carl Moyer Program funds.

- For repower projects, Carl Moyer Program funds can only be used to pay for the incremental costs of an eligible engine and the costs to install that engine in the TRU equipment.

- Old TRU engines that are replaced with newer engines or alternative technologies must be destroyed.

Proposed Project Criteria For Large Spark-Ignited Engines

The Board will consider a regulation for off-road large spark ignited engines at the September 2005 hearing. The Carl Moyer Program and other potential incentive programs will be discussed at this hearing. Project criteria based on the Board's decisions will be included in the proposed Carl Moyer Program guidelines that will be released for public comment in October.

Proposed Project Criteria for Locomotives

These criteria provide the minimum requirements for all Carl Moyer Program locomotive projects. Participating districts retain the authority to impose additional requirements in order to address local concerns.

- Emission reductions obtained through Carl Moyer Program projects must not be required by any federal, state or local regulation, memorandum of agreement/understanding with a regulatory agency, settlement agreement, mitigation requirement, or other legal mandate. Inclusion in a rail yard or port emission reduction plan, lease agreement, or other voluntarily adopted strategy does not exclude a locomotive project from funding eligibility, if such project is not otherwise required.

- Projects must meet a cost-effectiveness of $14,300 per weighed ton of NOx + ROG + combustion PM10 reduced calculated in accordance with the cost-effectiveness methodology discussed in this chapter.

- No emission reductions generated by the Carl Moyer Program shall be used as marketable emission reduction credits, or to offset any emission reduction obligation of any person or entity.

- No project funded by the Carl Moyer Program shall be used for credit under any federal or state emission averaging banking and trading program.

- Carl Moyer Program grants can be no greater than a project's incremental cost. The incremental cost is the cost of the project minus the baseline cost. The incremental cost shall be reduced by the value of any current financial incentive that reduces the project price, including tax credits or deductions, grants, or other public financial assistance.

- Projects must have a minimum project life of three years. ARB may approve shorter project life on a case-by-case basis. Projects with shorter lives may be subject to additional funding restrictions, such as a lower cost-effectiveness limit or a project cost cap.

- Potential projects that fall outside of these criteria may be considered on a case-by-case basis if evidence provided to the air district suggests potential surplus, real, quantifiable, and enforceable emission reduction benefits.

- Locomotive operators utilizing an alternative emission control plan (AECP) to comply with California's locomotive low-sulfur diesel fuel requirements shall not be eligible for Carl Moyer Program funds.

- All diesel locomotive projects must use ARB diesel fuel. Emission reductions and costs associated with use of ARB diesel shall not be included in project cost-effectiveness calculations.

- Purchase of a new locomotive must achieve at least 30 percent NOx reductions beyond Tier 2 emission levels.

- Locomotive repower or idle limiting device (ILD) projects must achieve a 15 percent NOx reduction beyond existing emission levels.

- Low-NOx or reduced emission fuel injectors must be certified or verified by ARB or U.S. EPA to achieve at least a 15 percent NOx emission reduction on the project engine to be eligible for Carl Moyer Program funding.

- 1973 and later model year locomotive projects must achieve at least Tier 0 emission levels, if Tier 0 remanufacture kits are available.

- A project is considered a new locomotive purchase project if an old locomotive chassis is significantly refurbished with a newer engine, electronics, batteries and/or other equipment (including "green goats" or multiple engine switchers).

- All switcher and passenger train purchase and repower projects (except hybrid or multiple engine switchers) must include purchase and installation of an ILD to reduce unnecessary engine idling if the locomotive is not already equipped with such a device and installation of an ILD is technically feasible. Eligible ILDs include automatic engine start-stop controls (AESS), diesel driven heating systems (DDHS), stationary power plug-in units, and auxiliary power units (APUs).

- An hour-meter must be installed with all ILDs to record the actual operating time of the unit and to maintain and record the number of hours the ILD is utilized.

- If not already required by a rule, regulation, or memorandum of understanding (MOU), the purchase and installation cost of an ILD is eligible for Carl Moyer Program funding, subject to the following limitations:

  - The Carl Moyer Program may provide actual equipment costs up to a maximum of $8,000 for a locomotive-specific ILD.

  - The Carl Moyer Program may provide the lower amount of actual installation costs of the ILD and hour meter, or up to a maximum of $1,700 per diesel APU installation and a maximum of $3,400 per ILD, or alternative fuel, electric motor, or fuel cell APU installation.

  - ILD emission reductions are calculated by applying the PM and NOx ILD emission reduction factors in Table 9-4 to the reduced engine emissions.

  - In order to ensure all emission reductions are surplus to the Statewide Locomotive MOU, all UP and BNSF projects must apply the PM and NOx ILD emission reduction factor to both baseline and reduced locomotive project emission rates. (*Note: The Statewide MOU is scheduled to be reviewed by the Board in September 2005.*)

  - All ILD must comply with applicable durability and warranty requirements. An engine used for auxiliary power must meet current emission standards and be certified by the ARB for sale in California.

Table 9-4
NOx and PM Idle-Limiting Device
Emission Reduction Factors

Switchers	0.30
Line-Haul	0.19
Passenger	0.19

These factors are calculated by multiplying the percent of time the locomotive operates in the idle duty cycle by a 50 percent idling reduction rate (*Linda Gaines, Argonne National Laboratory*). Based on U.S. EPA locomotive duty cycles, Carl Moyer Program switch and line-haul locomotive projects are assumed to operate at idle 60 and 38 percent of the time, respectively. Different factors may be utilized if at least one year of hour meter data from the project locomotive can substantiate more or less time in idle duty cycle.

- All locomotive new purchase or repower projects must include an electronic monitoring unit (EMU) to track activity and geographic location. Eligible EMUs include a geographic positioning system (GPS) unit, transponding device, automated vehicle locator (AVLs), or other similar device. Complete information from the EMU regarding total hours of operation or fuel consumption both within the air district and the State of California shall be reported to air districts annually for the project life. The full purchase and installation cost of the EMU is eligible for Carl Moyer Program funding, and may be included when calculating project cost-effectiveness. The grantee is responsible for assuring the locomotive is equipped with a working EMU for the full project life.

- An EMU must be used to verify activity of alternative fuel engines for all LNG-diesel or other dual fuel locomotive projects. Activity information must be provided for the life of the project.

- Baseline emissions and costs for Carl Moyer Program locomotive project evaluations shall be based upon the information in Table 9-5.

- The contract term for all locomotive projects must be equivalent to the project life. The project life is defined as the number of years used to evaluate project cost-effectiveness.

- The acceptable maximum project life for a locomotive project is 20 years. The minimum project life for a locomotive project is 3 years.

- Class I locomotives subject to the South Coast MOU are eligible for Carl Moyer Program funding only if such locomotives are excluded from the fleet average emission rate calculations which demonstrate compliance with the MOU provisions. The baseline emission rate used to determine emission reductions and cost-effectiveness for these locomotive projects is 5.5 g/bhp-hr. Locomotives subject to the South Coast MOU which receive Carl Moyer Program funding are ineligible to receive fleet average emission credits (FAC).

- *ARB staff is taking comment on how to ensure that cleaner locomotives funded through the Carl Moyer Program in all California air districts are not used to comply with the South Coast MOU by being traded with higher emitting locomotives in the South Coast at the*

end of their project life to meet the 2010 fleet average requirement in the South Coast. One concept under consideration is to require a minimum 10 to 20 year project life for all Class I freight locomotive projects.

- For engine repower projects, the replaced engine must be permanently destroyed by the grantee by cutting the engine block in half. Grantee must provide verification of engine block destruction to air district staff.

- For new locomotive purchase projects, the old engine must be permanently destroyed by cutting the engine in half; all other locomotive components, including the chassis, water pumps, power assemblies, blowers, and other electronic or mechanical parts must be either permanently destroyed, sold outside of the United States, Canada, and Mexico, or retired to a locomotive museum.

- Locomotive activity must be based upon fuel consumption or, if the project locomotive has an hour-meter, hours of operation based upon hour meter data.

- Seventy-five percent of estimated annual miles traveled and annual fuel consumption must occur in California.

- Carl Moyer Program funds cannot be expended on costs for labor or parts used during routine maintenance.

- Military and industrial locomotives owned by companies with annual revenues less than $20.5 million are evaluated using the same Carl Moyer Program criteria as Class III railroad switch locomotives. All other military and industrial locomotives are evaluated using guidelines applicable to Class I locomotives.

- Locomotive engine emissions must be determined following the most current and approved U.S. EPA emission testing procedures for locomotives.

Table 9-5
Baseline Emission and Cost Assumptions
for Use in Carl Moyer Program Project Evaluation

Locomotive Type	Repower Baseline		New Purchase Baseline	
	Emissions	Cost	Emissions	Cost
Line-haul	Based upon federal emission requirements for engine remanufacture[a]	Remanufacture cost or $50,000, whichever is greater	Tier 2	Cost of new Tier 2 locomotive
Switcher[b]	Tier 0 for Class 1 railroads	Remanufacture cost or $50,000, whichever is greater	Tier 0 for Class I railroads	$300,000
	Uncontrolled for Class III railroads[c]		Uncontrolled for Class III railroads[c]	
Passenger	Uncontrolled (for up to 2006 MY)	Remanufacture cost or $50,000, whichever is greater	Tier 2	Cost of new Tier 2 locomotive

a. Uncontrolled emission rates for pre-1973 locomotives and all Class III railroad locomotives; Tier 0 emissions for 1973-2001 Class I locomotives; Tier 1 for 2001-2004 Class I locomotives; Tier 2 for 2005 and later model year Class I locomotives.
b. Defined as a locomotive used for switching rolling stock in a railroad yard, utilizing an engine or engines with horsepower $\leq$ 2300.
c. Uncontrolled emission rates based upon Table 9.3. Any Class II railroad which operates in California shall meet the same Carl Moyer Program criteria as Class III railroads.

Proposed Project Criteria for Marine Vessels

These criteria provide the minimum requirements for all Carl Moyer Program projects. Participating districts retain the authority to impose additional requirements in order to address local concerns.

- Emission reductions obtained through Carl Moyer Program projects must not be required by any federal, state or local regulation, memorandum of agreement/understanding with a regulatory agency, settlement agreement, mitigation requirement, or other legal mandate. Inclusion in a port emission reduction plan, lease agreement, or other voluntarily adopted strategy does not exclude a marine vessel project from Carl Moyer Program funding eligibility, if such project is not otherwise required.

- Projects must meet a cost-effectiveness of $14,300 per weighed ton of NOx + ROG + combustion PM10 reduced calculated in accordance with the cost-effectiveness methodology discussed in this chapter.

- No emission reductions generated by the Carl Moyer Program shall be used as marketable emission reduction credits, or to offset any emission reduction obligation of any person or entity.

- No project funded by the Carl Moyer Program shall be used for credit under any federal or state emission averaging banking and trading program.

- Carl Moyer Program grants can be no greater than a project's incremental cost. The incremental cost is the cost of the project minus the baseline cost. The incremental cost shall be reduced by the value of any current financial incentive that reduces the project price, including tax credits or deductions, grants, or other public financial assistance.

- Projects must have a minimum project life of three years. ARB may approve shorter project life on a case-by-case basis. Projects with shorter lives may be subject to additional funding restrictions, such as a lower cost-effectiveness limit or a project cost cap.

- Potential projects that fall outside of these criteria may be considered on a case-by-case basis if evidence provided to the air district suggests potential surplus, real, quantifiable, and enforceable emission reduction benefits.

- Marine vessels and engines utilizing an alternative compliance plan to comply with a rule, requirement, or other mandate shall not be eligible for Carl Moyer Program funds.

- A marine vessel receiving any type of emission reduction credit or offset is ineligible for Carl Moyer Program funding.

- All harbor craft must use ARB diesel fuel to be eligible for Carl Moyer Program funding. Emission reductions and costs associated with use of ARB diesel shall not be included in project cost-effectiveness calculations.

- Only marine vessel engines with complete and legible engine serial numbers are eligible for Carl Moyer Program funding.

- A replacement engine or retrofit must provide a 15 percent minimum NOx emission reduction relative to the baseline engine. New marine vessels must be powered by propulsion engines which meet U.S. EPA Blue Sky emission standards; all propulsion and auxiliary engines on new marine vessel purchase projects must also achieve at least a 30 percent NOx emission reduction from baseline levels.

- ARB strongly encourages use of in-situ test data to determine baseline engine emission levels; alternatively, the default values identified in Table 10-5 may be used. A new replacement engine emission rate shall be based on emission rates for that engine identified in Table 10-7. If a replacement engine is significantly modified or re-configured in any way during the project life, in-situ testing must be conducted to determine its new emission rates.

- Only marine vessel activity in California waters may be used to determine project emission reductions. For the purposes of the Carl Moyer Program, California water boundaries are based upon each air districts' emission inventory boundary. If a local district has not established an emission inventory boundary, the ARB and district staff will determine an appropriate boundary for use in project evaluation.

- Non-captive California fleets and vessels may be considered for funding on case-by-case basis if their operation in California coastal waters can be properly documented.

- Project marine vessels must be equipped with a functioning electronic monitoring unit (EMU) to track activity and geographic location. The EMU must be turned on at all times when the project engine is running for the life of the project, to record all vessel trips and activity. Information from the EMU regarding fuel use or hours of operation within the air district coastal boundary and California Coastal waters must be reported to air district annually for the project life. The cost of a new unit may be included in the Carl Moyer Program grant, and in the project cost effectiveness calculations if not required by any rule, statute, MOU, or other mandate. The grantee is responsible for assuring a working EMU is on the project vessel for the full project life.

- Low-NOx or reduced emission fuel injectors must be certified or verified by ARB or U.S. EPA to achieve at least a 15 percent NOx emission reduction on the project engine to be eligible for Carl Moyer Program funding.

- For engine repower projects, the replaced engine must be permanently destroyed by the grantee by cutting the engine block in half. Engine block destruction must be verified by air district staff. For new vessel purchase projects, the old vessel engine must be destroyed by cutting the engine in half; all other vessel components must be destroyed or sold outside of the United States, Canada, and Mexico.

- Engines on marine vessels with wet exhaust systems are eligible for Carl Moyer Program funding, if the project vessel meets all other applicable program requirements. The wet exhaust systems themselves are not eligible for Carl Moyer Program funding. A wet

exhaust factor of 0.20 must be applied to the baseline and reduced emission propulsion and auxiliary engine emission reductions for all projects on vessels with wet exhaust systems.

- The contract term for all marine vessel projects must be equivalent to the project life. The project life is defined as the number of years used to evaluate project cost-effectiveness.

- The minimum project life for marine vessel projects is 3 years. Projects with a shorter life can be considered on a case-by-case basis.

- The maximum project life for marine vessel projects (equivalent to the average engine life reported by U.S. EPA) is as follows:

	Maximum Project Life
Engine displacement <5.0 liter/cyl.	16 years
Engine displacement <5.0 liter/cyl.	23 years
Auxiliary engines (categories 1 & 2)	17 years

- Carl Moyer Program funds cannot be expended on costs for labor or parts used during routine maintenance.

- Funding is not available for projects where spark-ignition engines (i.e., natural gas or gasoline, etc.) are replaced with new diesel engines.

The above project requirements and selection criteria are constantly undergoing review at ARB as new data and information becomes available. Consequently, these requirements and selection criteria (e.g., baseline emission factors) are subject to updates.

Proposed Project Criteria for Ground Support Equipment

These project criteria are designed to ensure that the emission reductions expected through the deployment of electric ground support equipment (GSE) are real and quantifiable. Airport GSE projects must meet the project criteria provided below. Participating districts retain the authority to impose additional requirements in order to address local concerns.

These criteria may be affected by a proposal to regulate large spark ignited engines. The Board will consider this regulation at its September 2005 Board hearing.

- Emission reductions obtained through Carl Moyer Program projects must not be required by any federal, state or local regulation, memorandum of agreement/understanding with a regulatory agency, settlement agreement, mitigation requirement, or other legal mandate.

- Projects must meet a cost-effectiveness of $14,300 per weighed ton of NOx + ROG + combustion PM10 reduced calculated in accordance with the cost-effectiveness methodology discussed in this chapter.

- No emission reductions generated by the Carl Moyer Program shall be used as marketable emission reduction credits, or to offset any emission reduction obligation of any person or entity.

- No project funded by the Carl Moyer Program shall be used for credit under any federal or state emission averaging banking and trading program.

- Carl Moyer Program grants can be no greater than a project's incremental cost. The incremental cost is the cost of the project minus the baseline cost. The incremental cost shall be reduced by the value of any current financial incentive that reduces the project price, including tax credits or deductions, grants, or other public financial assistance.

- Projects must have a minimum project life of three years. ARB may approve shorter project life on a case-by-case basis. Projects with shorter lives may be subject to additional funding restrictions, such as a lower cost-effectiveness limit or a project cost cap.

- Projects with more than a 5 year project life must have a contract term of at least 5 years.

- Potential projects that fall outside of these criteria may be considered on a case-by-case basis if evidence provided to the air district suggests potential surplus, real, quantifiable, and enforceable emission reduction benefits.

- Existing internal combustion engine (ICE) equipment must be replaced with new electric equipment.

- Eligible equipment is equipped with ICEs that may be powered by diesel, gasoline, natural gas, or propane fuel.

- Existing electric GSE are not eligible. All applicants for Carl Moyer Program GSE funds must sign a declaration that the applicant is not replacing an existing piece of electric GSE with a new electric GSE.

- Eligible GSE is air-side equipment (primarily used on the tarmac) and includes the following: belt loaders, baggage tugs or tractors, forklifts, lifts, cargo loaders, ground power units, or aircraft tugs. Other air-side GSE equipment will be evaluated on a case-by-case basis.

- Fuel, utility, water and service trucks are not eligible for Carl Moyer Program funding under these GSE guidelines. These trucks however may be eligible for Carl Moyer Program funding under the on-road category.

- Equipment must be purchased for use at a commercial (passenger) airport in California.

- Equipment purchased for use at a military airport will be considered on a case-by-case basis. The equipment must not be covered by any existing regulations or permit requirements, and the emission reductions must be surplus to any credit banking programs.

- Equipment must be purchased by the business or organization that will be operating the equipment such as airports and commercial (passenger) airline companies. Equipment may not be leased or rented to another business or organization.

- Purchases by airline service companies or ground handlers are eligible if they provide documentation (such as written contracts or other binding agreements) specifying that they will operate the equipment at a passenger airport not excluded under the Carl Moyer Program for a minimum of three years.

- The existing ICE equipment, which is being replaced must have an engine rated at 25 hp or greater (which is equivalent to an electric motor 19 kilowatts or greater).

- All eligible projects will be required to have an hour-meter on each GSE, and track annual hours of operation.

- Projects at airports in the South Coast Air Basin (LAX, Ontario, Orange County, Burbank, and Long Beach) are not eligible.

- Leased or rented new or used equipment is not eligible.

- The minimum acceptable project life for calculating project benefits from GSE is three years. It is noted that 20 years may be a typical GSE engine life. In this case, project life reflects the period over which the Carl Moyer Program funds emission reductions.

- At least 75 percent of the equipment hours of operation must occur in California.

- Carl Moyer Program GSE grantees must keep accurate records on funded GSE, including hours of operation, electricity usage, and maintenance and repair information. These records must be retained and updated throughout the project life.

- Existing equipment that is being replaced using Carl Moyer Program GSE funding must be destroyed or rendered inoperable. All applicants must sign a declaration that the existing equipment will be destroyed or rendered inoperable. Records must be retained by the applicant for the life of the project which shows that the equipment was destroyed or rendered inoperable.

Proposed Project Criteria for Stationary and Portable Agricultural Engines

For additional information about funding electric agricultural pumps, please see the "Zero-Emission Projects" section.

Participating districts retain the authority to impose additional requirements in order to address local concerns.

- Emission reductions obtained through Carl Moyer Program projects must not be required by any federal, state or local regulation, memorandum of agreement/understanding with a regulatory agency, settlement agreement, mitigation requirement, or other legal mandate.

- Projects must meet a cost-effectiveness of $14,300 per weighed ton of NOx + ROG + combustion PM10 reduced calculated in accordance with the cost-effectiveness methodology discussed in this chapter.

- No emission reductions generated by the Carl Moyer Program shall be used as marketable emission reduction credits, or to offset any emission reduction obligation of any person or entity.

- No project funded by the Carl Moyer Program shall be used for credit under any federal or state emission averaging banking and trading program.

- Carl Moyer Program grants can be no greater than a project's incremental cost. The incremental cost is the cost of the project minus the baseline cost. The incremental cost shall be reduced by the value of any current financial incentive that reduces the project price, including tax credits or deductions, grants, or other public financial assistance.

- Projects must have a minimum project life of three years. ARB may approve shorter project life on a case-by-case basis. Projects with shorter lives may be subject to additional funding restrictions, such as a lower cost-effectiveness limit or a project cost cap.

- Projects with more than a 5 year project life must have a contract term of at least 5 years.

- Potential projects that fall outside of these criteria may be considered on a case-by-case basis if evidence provided to the air district suggests potential surplus, real, quantifiable, and enforceable emission reduction benefits.

- An engine must be rated at greater than 25 hp, which is equivalent to an electric motor greater than 19 kW.

- A repower of an uncontrolled diesel engine must be with one of the following:
  - A new electric motor.
  - A new off-road diesel engine certified to the current applicable emission standards.
  - A new off-road spark-ignited (SI) engine certified to the current applicable emission standards.

  - A new SI engine that exceeds local district emission requirements and is subject to and complies with local district permitting, monitoring, record keeping and reporting requirements. This criterion will sunset on January 1, 2008.

- A repower of an uncontrolled SI engine must be with one of the following:
  - A new electric motor.
  - A new off-road SI engine certified to the current applicable emission standards.
  - A new SI engine that exceeds local district emission requirements and is subject to and complies with local district permitting, monitoring, record keeping and reporting requirements. This criterion will sunset on January 1, 2008.

- A retrofit of an uncontrolled diesel engine that reduces NOx must be with a retrofit kit that is verified to reduce NOx or NOx+NMHC emissions to the applicable new engine tier standard or less for a given engine size.

- A retrofit of an uncontrolled SI engine that reduces NOx must be with a retrofit kit that is verified to reduce NOx+NMHC emissions to the currently applicable standard for off-road large spark-ignited equipment. If this is not feasible, the project must reduce NOx+NMHC emissions to at least 3.0 g/bhp-hr or less.

- A repower of an emission-certified (1996+ model year) off-road diesel engine must be with one of the following:
  - A new electric motor.
  - A new off-road diesel engine certified to the current applicable emission standards.
  - A new off-road SI engine certified to the current applicable emission standards.
  - A new SI engine that exceeds local district emission requirements and is subject to and complies with local district permitting, monitoring, record keeping and reporting requirements. This criterion will sunset on January 1, 2008.

- A retrofit of an emission-certified (1996+ model year) off-road diesel engine that reduces NOx must be with a retrofit kit that is verified to reduce NOx or NOx+NMHC emissions by at least 15 percent from the applicable NOx or NOx+NMHC emission standard.

- A baseline engine in a repower project must be destroyed by scrapping or drilling a hole in the engine block rendering it inoperable unless prior approval for alternate disposition has been granted by ARB staff.

- Engine purchases for new 2005 or later model year agricultural irrigation pumps (i.e., not repowers of existing pump engines) can only be electric motors.

- Electric motors may replace diesel or SI engines. The applicant must have documentation of payment to the local utility company for power installation. This requirement of documentation also applies to new installations.

- Off-road diesel engines must be certified for sale in California and must comply with durability and warranty requirements.

- The use of a non-certified SI engine shall be subject to approval by ARB staff. Emissions testing of a non-certified SI engine shall be conducted using an ARB-approved source testing procedure, such as ARB Test Method 100.

- Non-certified SI engines shall be required to include currently available emission control components such as closed-loop fuel control systems, and three-way catalysts.

- Non-certified SI engines shall be subject to source testing with an ARB-approved testing procedure once every 24 months or following local district requirements, whichever is more frequent.

- Non-certified SI engines shall be subject to NOx and ROG emission readings using a portable analyzer each calendar quarter the engine is not source tested and the engine is in operation or following local district monitoring requirements, whichever is more frequent.

- The costs associated with source testing and monitoring requirements for non-certified SI engines are not eligible for funding.

- Reduced-emission retrofit kits must be verified following California test procedures and must comply with durability and warranty requirements.

- The maximum project life when determining project benefits for new purchases or repowers shall be 10 years for electric motors and for engines with documentation. The maximum project life for engines without documentation shall be 7 years. A different project life may be selected with approval by ARB staff. However, sufficient documentation must be provided to ARB that supports the selected project life based on the actual remaining useful life.

- Priority must be given to projects that replace non-mobile agricultural engines with electric motors. After electric motors, priority should be given to engine repowers with certified engines, and then to engine retrofits and non-certified engines, if applicable. This is in line with the intent of the program to provide the greatest air quality benefit.

Proposed Approach for Non-Engine Agricultural Sources

AB 923 (Firebaugh, 2004) gave the ARB authority to fund projects to reduce emission from previously unregulated agricultural sources of air pollution as defined in HSC §39011.5(a). This definition includes stationary and area-wide sources of pollution including engines, livestock operations, and other agricultural activities.

At this time, ARB staff is not proposing project criteria for non-engine agricultural sources. ARB staff intends to work closely with interested stakeholders to monitor technological developments to determine when it may be appropriate to develop project criteria. Potential control technologies will be evaluated for compliance with Carl Moyer eligibility requirements. These evaluations will consider:

- whether the technology provides real, quantifiable and enforceable emission reductions;
- the availability of standardized testing procedures that will quantify emission reductions from these technologies;
- availability of baseline emission factors; and
- potential multi-media issues.

All Carl Moyer Program projects, including projects that reduce emissions from agricultural sources, must provide real, surplus, quantifiable, and enforceable emission reductions and meet the $14,300 per weighted ton of ROG, NOx, and combustion PM10 cost-effectiveness limit.

Project criteria for non-engine agricultural projects will be developed once it has been determined that technology qualifies for Moyer funding. If these projects include reductions of non-combustion PM, the criteria will include a weighting factor for non-combustion PM for use in the cost effectiveness formula.

Proposed Project Criteria for the Agricultural Assistance Program

Stationary and Portable Agricultural Engines

The Agricultural Assistance Program is funded with $2 Motor Vehicle Fees approved by local districts. These funds are not part of the Carl Moyer Program, although the Health and Safety Code requires that Agricultural Assistance Program projects follow the Carl Moyer Program guidelines. Based on this statutory guidance, the ARB staff is proposing to model the Agricultural Assistance Program on the Carl Moyer Program guidelines. This means that the Agricultural Assistance Program will fund the incremental cost of projects. This also means that Agricultural Assistance Program projects will be limited to those for which the Board has approved Carl Moyer Program Guidelines.

The Carl Moyer Program project criteria for stationary and portable agricultural engines shall apply to the Agricultural Assistance Program with the following exceptions:

- The Agricultural Assistance Program may be used to fund projects from previously unregulated agricultural sources of air pollution for a minimum of 3 years from the adoption of an applicable rule or until the compliance date, whichever is later. Emission reductions are not required to be surplus.

- Projects must meet a cost-effectiveness of total reductions (CETR) criterion of $14,300 per weighted ton of NOx, ROG, and combustion PM10 reduced.

  Because AAP projects are not required to achieve surplus emission reductions, the cost-effectiveness calculations used in the Carl Moyer Program (which are based solely on surplus reductions) are not appropriate for evaluating these types of projects.

  However, in order to ensure that the technologies and costs of projects funded by the AAP are generally comparable to those funded by the Carl Moyer Program, ARB staff is proposing to limit AAP projects to those that meet a CETR criterion. CETR is determined by subtracting the emissions of the new engine from the emissions of the old engine. Districts may set more restrictive CETR limits when implementing local programs.

  The cost-effectiveness of total reductions is the annualized cost divided by the emission reductions as if no regulatory requirement existed:

$$\frac{\text{Annualized Cost (\$/year)}}{\text{Emission Reductions if no Regulatory Requirement Existed (tons/yr)}}$$

  The emission reductions should be calculated using Carl Moyer Program methodologies and protocols, but assuming no regulatory requirement exists. For example, for agricultural irrigation pump engines, the CETR calculation would generally assume a project life of 7 years, even if a local rule for agricultural irrigation pump engines takes effect in three years.

  It should be noted that the CETR cannot be compared to the cost-effectiveness of Carl Moyer Program-eligible projects because it includes the <u>total</u> emission reductions associated with a project instead of just the surplus emission reductions.

Proposed Project Criteria for Light-Duty Vehicles

Light-duty vehicle projects will initially be limited to voluntary accelerated vehicle retirement (VAVR) programs that meet the ARB's VAVR regulations. The project criteria listed below provide districts with the minimum qualifications for the Carl Moyer Program.

The ARB staff is proposing to include the option of using of remote sensing devices (RSD) to identify high emitting vehicles that can be targeted for voluntary early retirement and is taking a two-step approach to integrate RSD into the Carl Moyer Program and the VAVR regulation. As a first step, the ARB would authorize an RSD-based "High-Emitting Vehicle Identification, Repair, and Scrapping Program" to be run by the South Coast Air Quality Management District during 2005 and 2006. Then, the ARB would use the data to revise the VAVR regulation and these guidelines in 2006. After the ARB revises the regulation and Carl Moyer Program guidelines to fully incorporate RSD, any district that chooses to would be able to develop and implement RSD-based VAVR programs.

The criteria list below highlight many, but not all, of the requirements of the ARB's VAVR regulation. VAVR programs must meet all of the requirements of the regulation. Districts starting VAVR programs using Carl Moyer Program funding should reference these guidelines as well as the regulation. Where the Carl Moyer Program guidelines go beyond the requirements of the regulation, it is noted below. Participating districts retain the authority to impose additional requirements to address local concerns.

General Requirements

- Participation in a light-duty VAVR program shall be entirely voluntary for vehicle owners.

- VAVR programs shall comply with all provisions of the VAVR regulations found in title 13 California Code of Regulations, Division 3, Chapter 13, Article 1, §2601 et seq.

- VAVR programs seeking funding under the Carl Moyer Program shall comply with all applicable provisions of the Carl Moyer Program guidelines including "Administration of the Carl Moyer Program."

- Funding of program administrative costs, including advertising or outreach, shall be limited to the amount allowable under the Carl Moyer Program statute.

Vehicle Eligibility Requirements

- The vehicle to be retired must be currently registered with the Department of Motor Vehicles (DMV) as an operating vehicle and must have been registered for 24 consecutive months prior to the final date of the sale to a VAVR enterprise to an address, or addresses, within the district in which the VAVR enterprise is operated as specified in the ARB's VAVR regulations. Smog Checks must be performed as required by the DMV in order for the vehicle to be considered registered.

  1. A vehicle may also be eligible if the owner of the vehicle placed the vehicle in planned nonoperational status per Vehicle Code §4604, et seq., for a total of 2 months during

the continuous 24 month registration period, occurring at least 3 months prior to the date of sale to the VAVR enterprise.

2. A vehicle may also be eligible if the registration has lapsed for a period not to exceed 180 days during the previous 24 months and all appropriate registration fees and late penalties have been paid to the DMV, provided that the vehicle is registered for at 90 days immediately prior to its date of sale to a VAVR enterprise.

NOTE: These eligibility requirements are stricter than the ARB's current VAVR regulation but are consistent with the requirements of Health and Safety Code section §44094.

- The vehicle to be retired shall be driven to the VAVR enterprise purchase site under its own power and shall pass a functional and equipment eligibility inspections as specified in the ARB's VAVR regulation.

- The vehicle to be retired shall not be operating under a Smog Check repair cost waiver.

- If a vehicle volunteered for retirement is within 60 days of its next required Smog Check inspection, the vehicle shall pass the Smog Check inspection without receiving a repair cost waiver or economic hardship extension prior to acceptance by a VAVR enterprise operator.

- If a vehicle volunteered for retirement is within 61-90 days of its next required Smog Check inspection, the district shall verify that the vehicle has not failed the Smog Check inspection during this time frame.

Calculating Emission Reductions and Cost Effectiveness

- Emission reductions from VAVR programs shall be calculated in accordance with the methodology specified in the ARB's VAVR regulations.

- The maximum project life for a vehicle retirement project is 3 years as specified in the ARB's VAVR regulation.

- Projects must meet a cost-effectiveness criterion of $14,300 per ton of weighted NOx, ROG, and combustion PM emissions reduced. Carbon monoxide emission reductions may be quantified, but shall not be included in cost-effectiveness estimates.

Offering Vehicles/Parts to the Public

- The enterprise operator must inform the district of the vehicles that are ready for dismantling.

- The district must provide a detailed description of the vehicle to interested parties including collectors and enthusiasts.

- The enterprise operator must wait a minimum of 10 days before submitting a Notice to Dismantle to the DMV.

- If an interested person contacts the enterprise operator, the enterprise operator must hold the vehicle for an additional, minimum of 7 days.

- Non-emission-related and non-drivetrain parts from the vehicle may be sold at the sole discretion of the enterprise operator.

- Engine, emission-related parts, transmission, and drive train parts must be removed from the vehicle and destroyed after the 10 day waiting period but prior to offering the remaining parts for sale.

- If a vehicle is sold instead of retired, no emission reductions will be generated.

Recordkeeping

- For each vehicle retired, the district shall retain the following information:

    1. Vehicle Identification Number (VIN);
    2. Vehicle license plate number;
    3. Vehicle model year;
    4. Vehicle odometer reading;
    5. Vehicle make and model;
    6. Name, address and phone number of legal owner selling vehicle to the enterprise operator
    7. Name and business address of inspector conducting the vehicle's eligibility inspection, if the VAVR enterprise operator contracts with an ARB-approved inspection entity to perform the vehicle functional and equipment eligibility inspection;
    8. Date of purchase of vehicle by enterprise operator;
    9. Date of vehicle retirement;
    10. Emission reduction claimed.

- The VAVR enterprise operator shall maintain the following:

    1. Reproduction of California Certificate of Title and registration, as signed-off by the seller at time of final sale to the VAVR enterprise;
    2. Reproduction of the applicable certificate of functional and equipment eligibility;
    3. Reproduction of the applicable Notice to Dismantler (California Department of Motor Vehicles Registration 42 form);
    4. Reproduction of written documentation from the California Department of Motor Vehicles verifying that a vehicle meets the vehicle registration requirements of the ARB's VAVR regulations;
    5. If the retired vehicle was within 60 days of its next required Smog Check inspection, a reproduction of documentation that the vehicle passed its Smog Check inspection.

- Districts and enterprise operators shall retain these records for the life of the project.

Minimum Project Application Requirements

Districts must submit a VAVR plan to the ARB, consistent with the Carl Moyer Program guidelines. The district must receive written approval of the plan from ARB's Executive Officer (EO) prior to implementing the VAVR program under the Carl Moyer Program. The district must also submit an annual report to the ARB.

The district plan must at a minimum include:

1. The name, title, and telephone number of the district contact for the VAVR program;
2. An evaluation of environmental justice considerations including, but not limited to, outreach addressing community needs;
3. An estimate of the number of vehicles that may be retired and an estimate of the cost-effectiveness of the program along with all assumptions and calculations that were used to derive the estimate (recognizing that the ultimate cost effectiveness will depend on the mix of vehicles actually retired);
4. A sample of the enterprise operation contract;
5. A description of the methods that will be used and a timetable for monitoring and auditing enterprise operations;
6. A copy of the statement of certification that an enterprise operator has demonstrated compliance with all applicable provisions of the regulation;
7. The methodology and sample records for verifying that a vehicle is eligible for inclusion in the VAVR program including confirmation of compliance with any Smog Check requirements;
8. The protocol for informing the public of the availability of eligible vehicles for sale;
9. A copy of the records that will be required of the enterprise operator;
10. Changes to the VAVR program that are more stringent than those listed in the regulation; and
11. Any additional information necessary to explain or clarify how the district plan complies with the VAVR regulation and Carl Moyer Program.

The annual report shall contain, for each vehicle retired, at a minimum:

1. Vehicle Identification Number (VIN);
2. Vehicle license plate number;
3. Vehicle model year;
4. Vehicle odometer reading;
5. Vehicle make and model;
6. Name, address and phone number of legal owner selling vehicle to the enterprise operator;
7. Name and business address of inspector conducting the vehicle's eligibility inspection, if the VAVR enterprise operator contracts with an ARB-approved inspection entity to perform the vehicle functional and equipment eligibility inspection;
8. Date of purchase of vehicle by enterprise operator;
9. Date of vehicle retirement;
10. Emission reductions claimed.

Criteria for South Coast Air Quality Management District 2005/2006 RSD/Scrapping/Repair Project

- The South Coast Air Quality Management District (SCAQMD) may operate an RSD-based high-emitting vehicle identification, repair, and scrapping program in 2005 and 2006.

- Prior to project implementation, the district shall submit a detailed project plan for approval by the ARB's EO.

  1. The plan shall include a detailed protocol describing the installation, calibration, and operation of RSD that will be used to identify high emitters along with the methodology for processing of the data collected.
  2. The plan shall include itemized, estimated project costs including, but not limited to, the funds allocated to vehicle repair and the number of vehicles to be repaired, the funds allocated to vehicle retirement and the number of vehicles to be retired, and the costs allocated to collect RSD data.
  3. Project must follow the plan, with any substantive changes pre-approved by the EO.

- The SCAQMD shall permit the ARB to perform emissions testing on a subset of the retired vehicles selected by the ARB, prior to dismantling.

- As part of the SCAQMD's required Carl Moyer Program annual report, the SCAQMD shall report on each vehicle retired or repaired under this program.

- The ARB may conduct periodic auditing of the program, and the SCAQMD shall provide any required information concerning the program.

- If vehicle records are missing, incomplete, or chronically late, the ARB may request the return of any Carl Moyer Program funding for that vehicle.

- The ARB has not yet established the methodology for calculating the extra emission benefits from retiring high-emitting vehicles identified using RSD. Because of this, the emission reductions achieved under this project shall be calculated in accordance with a new methodology that will be established during the next revision of the VAVR regulation and adopted by the Board.

Other Projects

- Light-duty vehicle projects that fall outside of these criteria may be considered on a case-by-case basis.

Proposed Criteria for Zero-Emission Projects

Zero-emission vehicles and technologies are a key element of California's plan for attaining health based air quality standards. Not only does replacing internal combustion engines (ICE) with electric motors beget major reductions in NOx and PM, it also reduces greenhouse gases and petroleum consumption. Electric motors generally last longer than their ICE counterparts, are more reliable, and require less maintenance. Once an electric motor is installed, there is little need for monitoring because it is not reliant on manual operating routines (e.g., there are no filters to clean and no additives, reducing regents or special fuel types required) and its emission control effectiveness does not deteriorate over time. Because of these attributes, electric motors are ideally suited for Carl Moyer Program projects. ARB staff will continue to work closely with interested stakeholders to monitor technological developments in effort to determine when it may be appropriate to develop or modify criteria for electric projects.

Zero-emission projects must meet all applicable requirements of the Carl Moyer Program, including the administrative guidelines. Zero-emission project types not specifically addressed within these guidelines may be considered on a case-by-case basis. Evaluation of such projects will be based on prescribed eligibility requirements including whether or not the project provides real, surplus, quantifiable, and enforceable emission reductions and whether it meets the cost-effectiveness threshold.

- Emission reductions obtained through Carl Moyer Program projects must not be required by any federal, state or local regulation, memorandum of agreement/understanding with a regulatory agency, settlement agreement, mitigation requirement, or other legal mandate.

- Projects must meet a cost-effectiveness of $14,300 per weighed ton of NOx + ROG + combustion PM10 reduced calculated in accordance with the cost-effectiveness methodology discussed in this chapter.

- No emission reductions generated by the Carl Moyer Program shall be used as marketable emission reduction credits, or to offset any emission reduction obligation of any person or entity.

- No project funded by the Carl Moyer Program shall be used for credit under any federal or state emission averaging banking and trading program.

- Carl Moyer Program grants can be no greater than a project's incremental cost. The incremental cost is the cost of the project minus the baseline cost. The incremental cost shall be reduced by the value of any current financial incentive that reduces the project price, including tax credits or deductions, grants, or other public financial assistance. See below for details on the baseline costs for new purchases, repowers, and retrofits.

- Projects must have a minimum project life of three years. ARB may approve shorter project life on a case-by-case basis. Projects with shorter lives may be subject to additional funding restrictions, such as a lower cost-effectiveness limit or a project cost cap.

- Projects with more than a 5 year project life must have a contract term of at least 5 years.

- Potential projects that fall outside of these criteria may be considered on a case-by-case basis if evidence provided to the air district suggests potential surplus, real, quantifiable, and enforceable emission reduction benefits.

Forklifts

The Board will consider a regulation for off-road Large Spark-Ignited engines at the September 2005 hearing. The Carl Moyer Program and other potential incentive programs will be discussed at this hearing. Project criteria based on the Board's decisions will be included in the proposed Carl Moyer Program guidelines that will be released for public comment in October.

Idling Reduction Technologies

- Carl Moyer Program funds may be used for modifications made to a vehicle in order to accommodate off-vehicle electric power supplies. Each vehicle must be equipped with an amp-hour counter or other means to measure utilization.

- Carl Moyer Program funds may not be used to pay for the electrification of vehicle parking spaces. However, districts may use matching funds to cover this cost.

- Carl Moyer Program funds may be used for installing off-vehicle climate control systems (e.g., IdleAire systems). In these cases, a partial payment will be made upfront to help offset the initial capital investment. The remainder of the grant amount will be paid out in installments based on system utilization. The amount of the initial payment and subsequent installments will be determined on a case-by-case basis. Each space must be equipped with an amp-hour or usage meter.

Marine

In addition to being the largest source of air pollution in many districts, ports are often situated in environmental justice areas. For these reasons, ports are a primary focus for emission reduction strategies throughout the state. In fact, the Governor has directed state and regional air agencies to work together with the U.S. EPA, industry and community stakeholders to address port-related sources of air pollution.

The largest emission source at ports is marine vessels. One promising strategy for reducing marine vessel emissions is through "cold ironing" where ships plug into shore-side power while docked, rather than continuously running their diesel engines to generate electricity.

ARB is considering options for funding cold ironing projects. One option is to fund equipment installation/modification on the ship in order to retrofit the vessel for cold ironing. This option is somewhat risky because of the highly flexible nature of ship routes and port visitations. Alternatively, ARB could fund the necessary modifications and equipment on the dock. This would be easier to enforce and monitor and would provide assurance that all emission reductions resulting from the investment are realized within the air basin. If payments are

tied to the utilization of the system, it would also provide a strong incentive for ports to maximize usage. A combination of ship-side and dock-side funding is also being considered.

Because of the complexity and unique nature of each cold ironing project, ARB staff is proposing to evaluate cold-ironing projects on a case-by-case basis.

Agricultural Engines/Motors

- Agricultural pumps that use an electric motor may use a 10 year project life for calculating cost effectiveness.

- Priority must be given to projects that replace stationary agricultural engines with electric motors. After electric motors, priority should be given to engine repowers with certified engines and then, finally to engine retrofits. This is in line with the intent of the Carl Moyer Program to provide early emission reductions and produce the greatest air quality benefit.

- Considering the air quality benefits of electric motors, select infrastructure costs for necessary equipment associated with the motor (e.g., control panel, motor leads, service pole with guy wire, and connecting electric line) may be included in determining the grant award amount.

- The Carl Moyer Program will not pay for line extensions to applicants who convert their irrigation pumps from diesel to electric operation. Districts can pay for line extensions using matching funds. Because the Carl Moyer Program does not cover the cost of line extensions, applicants may participate in electric utility programs that offer discount electric rates and line extensions, and still be eligible for Carl Moyer Program funding.

- District match funds may be used to fund the cost difference between electricity and conventional diesel, if any. In this case, the fueling cost difference, amortized over the project life, should be added to the funding provided for the project when calculating the cost-effectiveness of the project.

- All electric-driven pumps must have a functioning kilowatt-hour meter, or other method approved by the local air district, to monitor usage.